



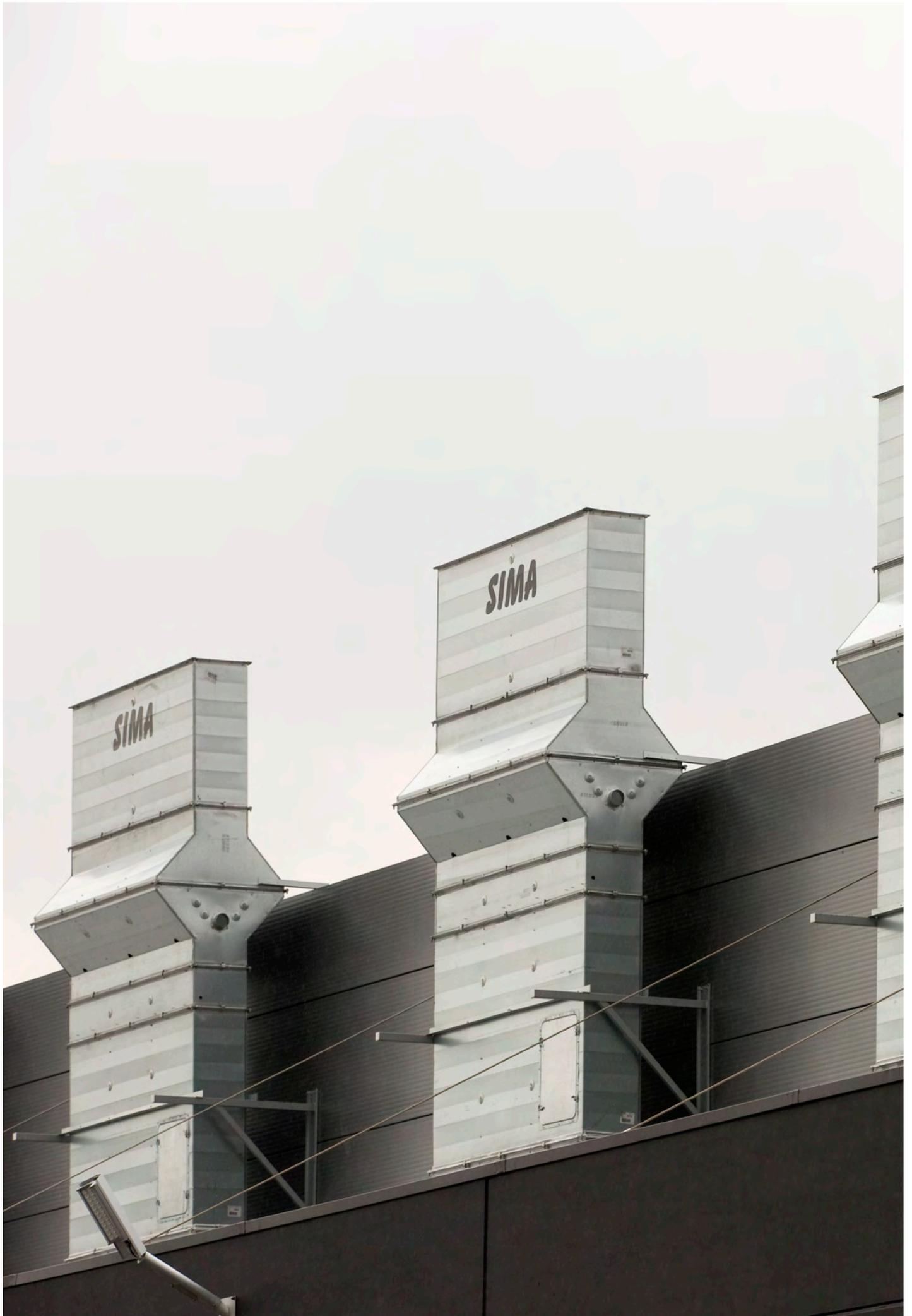
INDUSTRY.

Installations for surface treatment and wet coating applications



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CONTENTS

SIMA: A STORY OF INNOVATION	5
Sima, part of Sacca Group	5
Sima Industry	5
INDUSTRY: CUSTOMISED SOLUTIONS	7
Heavy duty	9
Metal	13
Wood & plastics	15
Railway industry	17
Aviation	21
Conveyor systems	25
Robot installations for automotive or industrial applications	27
TECHNOLOGY	29
Ventilation	29
Energy efficiency	30
Controls	31
Heating	32
Filters	32
MORE THAN JUST SPRAY BOOTHS	35
ALL-IN-ONE	39
Alfadis Platforms	39
Vip Tools	41
Alfa.dis Service & Filters	43





A passion for quality and innovation!

SIMA: A STORY OF INNOVATION

Sima has been offering solutions for wet coating applications and surface treatment since 1991. In this time, the company has grown to become the market leader in the field, offering design, production and installation services from our production facilities in Mouscron. We offer flexibility through our in-house production, and our expertise and creative innovation are ensured through our extensive experience. Highly-skilled professionals use CAD engineering tools to conjure up the perfect solution to meet your needs.

Our active involvement in the ongoing development of technologies and designs has made us a global leader in our field. Our broad range of products includes spray booths, painting installations, industrial ovens, preparation areas, wet coating lines with transport systems, fully-equipped bodyshops and more.

Over 6,000 satisfied customers are proof of Sima's global strength.



WHY CHOOSE US?

- Innovation and quality
- In-house consulting services
- Products made in Belgium
- Customised installations



Sima, part of Sacca Group

From its founding, Sima has been part of the Sacca Group, which includes both Sima Bodyshop and Sima Industry. In 2010, the group expanded to include Clid Systèmes, which offers complete spray lines for the automotive manufacturing industry. One year later, the Sacca Group also added Vip Tools, a Belgian importer of high-quality paint and surface treatment tools. Alfadis Platforms is the group's company for the building of in-booth access platforms, while Alfa.dis Service & Filters offers technical maintenance services and supplies high-quality filters for booths.

Sima Industry

For industrial applications, Sima Industry is the name you need to know. Sima Industry's professionals are active worldwide in the design, production and installation of industrial paint and surface treatment applications. No two applications are alike in this industrial world because we only offer solutions that are fully customised to your needs.



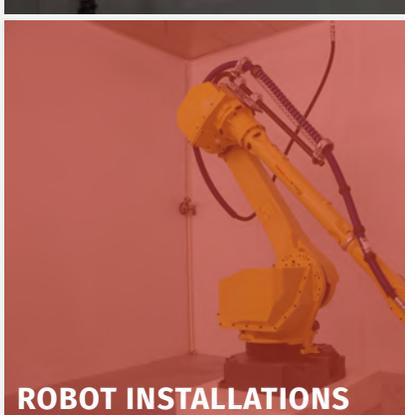
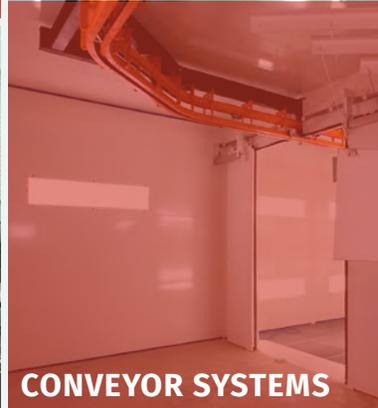
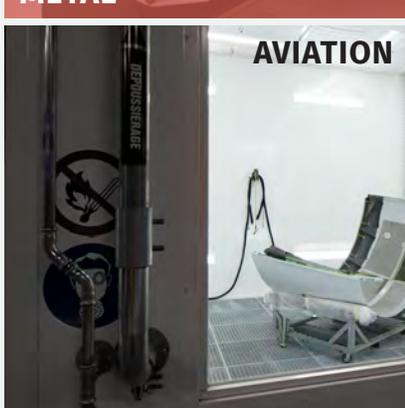
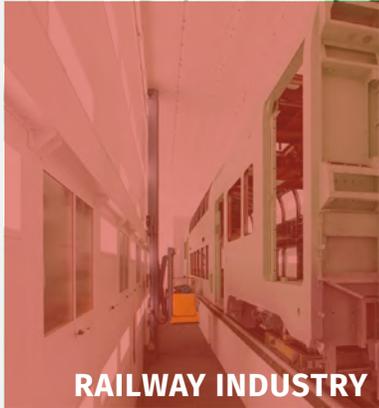


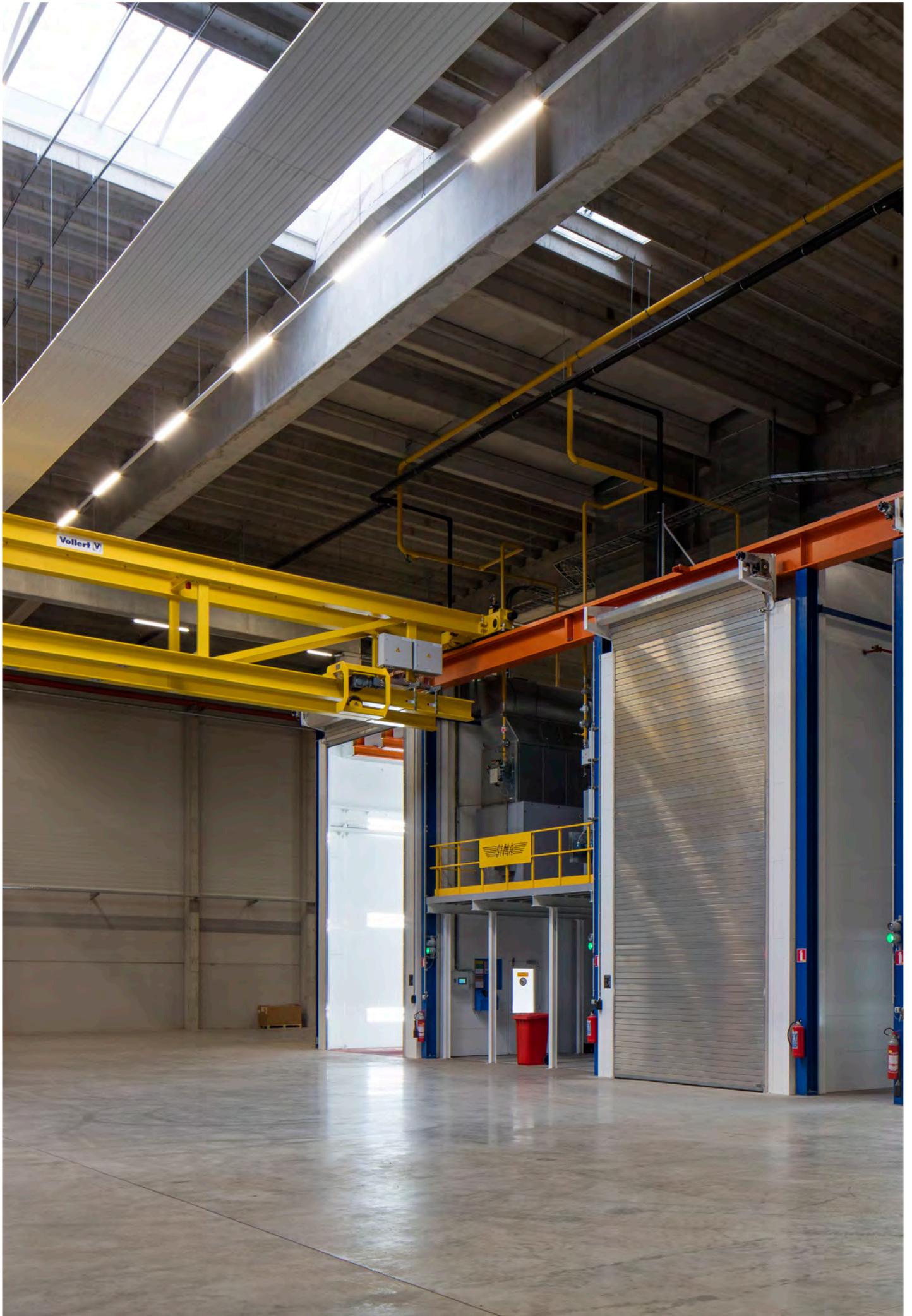
INDUSTRY: CUSTOMISED SOLUTIONS

At Sima, working for industry means providing customised solutions for every client. After all, every industrial task is different, with its own complexities and characteristics.

Our agents will be happy to help you find the perfect solution to meet your needs.

However, to simplify things for you, industry is divided into different sectors, whereby we thoroughly analyse each branch and consider various industry-specific options for each.





Heavy duty

Lorries, rolling stock, farm machinery – which all fall under the category of ‘heavy duty’ at Sima – need special spray installations that meet specific requirements. As in other industrial projects, all installations are customised to meet the client’s needs. For each project, our in-house consultants study the options down to the last detail and design the desired installations, whilst also ensuring their suitability for the building or site in question.

Our range of heavy-duty spray booths includes booths of varying dimensions that can be split into several sections (1/3, 2/3) for optimal use. All details are discussed with the client in advance to ensure that the needs and characteristics of the product to be treated are perfectly taken into account.



- customised
- commercial vehicles, rolling stock, farm machinery, etc.
- state-of-the-art LED lighting (ATEX)
- XL access doors
- heat recovery
- transport systems
- 3D lifts



Access doors

Among other things, we use insulated folding doors to maximise ease of access. The doors can be equipped with a large window and/or emergency door.



Ventilation

Depending on the space, the spray booth can be equipped with various ventilation flows with their own characteristics:

- **Vertical airflow** with a full-ceiling filter (the size of the surface) prevents turbulence.
- **Horizontal airflow** can be achieved by using extractor walls. These are usually employed in combination with diagonal ventilation. This is a cost-effective solution that avoids the need for major structural modifications (such as excavation works).

Frequency regulation on the fans ensures flawless ventilation.



Extraction

To ensure perfect spray results, you need to ensure sufficient and properly distributed air extraction. Sima offers the possibility of extracting air through the entire surface, either via a wall or through one or more rows of gratings. Here too, the best solution for each situation is decided together with the client, taking into account the applicable standards, budget, ease of filter replacement and other factors.

Energy efficiency

Spray booths also need to be eco-friendly and energy efficient, of course. That is why we have developed a range of 'eco-systems', which both reduce consumption (QDS, IRS, frequency regulation, drying programs) and recover heat (cross-flow heat exchanger plates, twin coils). More information on these eco-systems is provided at the back of this brochure (see the section on technologies).



Transport systems

When working with heavy-duty vehicles, large parts often need to be moved effectively as well. Moving these parts will quite literally involve some 'heavy lifting'. For this, we offer a number of either manual or fully-automated transport and conveyor systems. The various applications for this are also discussed elsewhere in the catalogue.



Lifts

Not only are heavy-duty parts hard to move, they are often also a challenge to spray. To optimise ease of access and ergonomics when polishing and spraying objects, we offer the option of installing 3D lifts. Alfadis Platforms, also part of the Saca Group, offers lifts to suit every situation. For instance, when a booth is to be used to prepare (polish/fill) or metalize parts, the lift can be adapted to these specific circumstances. Special lifts are also available for powder coatings and blasting cabinets.





Metal

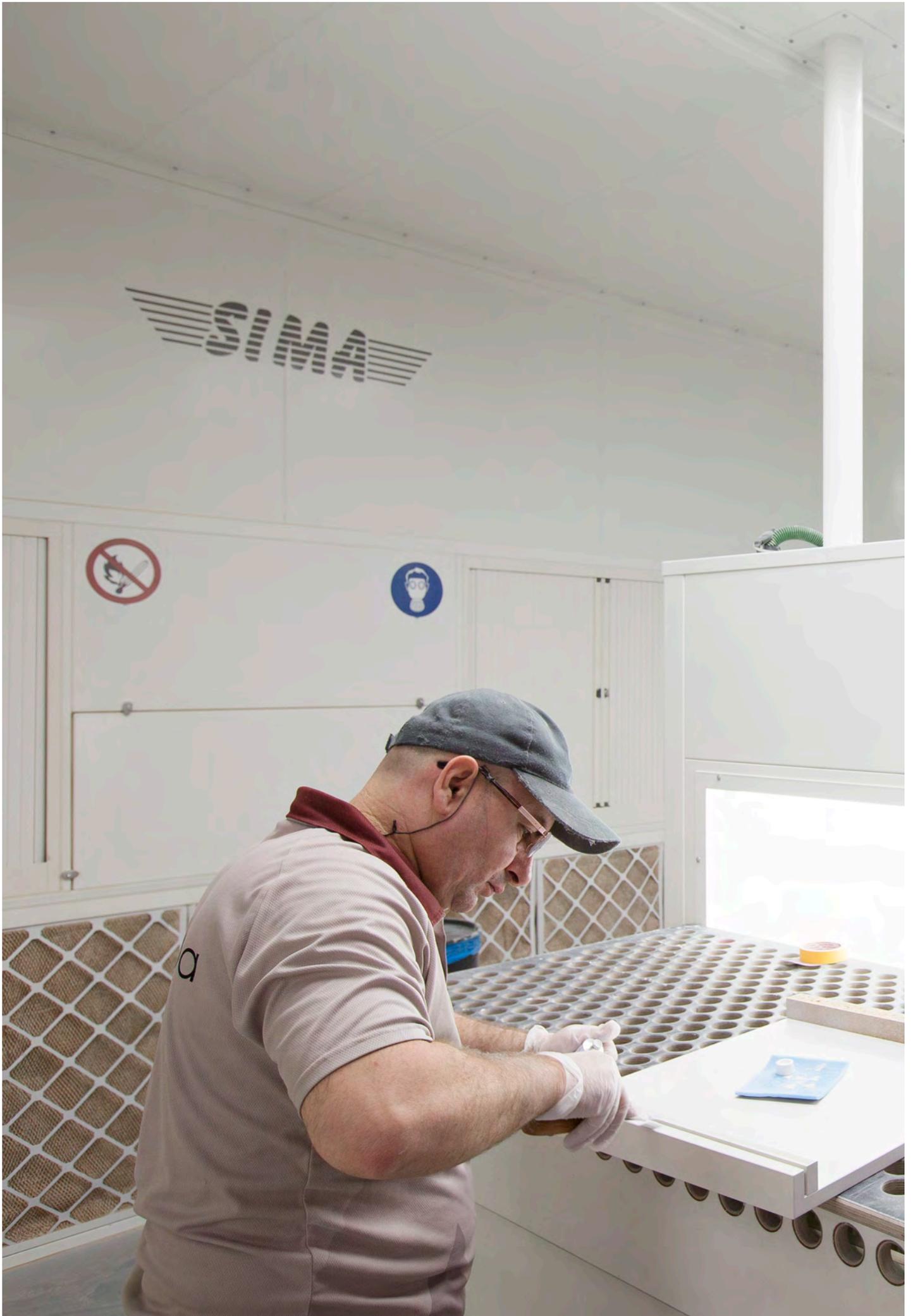
The effective painting of metal objects or parts depends largely on the installation's design and layout. Sima – which in less than 25 years has grown to become the market leader in the Benelux region – has already proved its expertise in this area, with its countless spray installations in virtually all shapes and sizes.

The treatment of metals requires an even more project-specific approach than other sectors. Much will depend on the parts to be treated – the dimensions, production volumes, subsequent treatments, etc. Project designers must obviously also take into account the client's wishes and industry standards for ventilation, environmental protection, safety, transport and energy consumption.

Solutions may vary widely, depending on the weight, shape and number of objects to be treated. For smaller sizes or single parts, we offer small spray booths equipped with filters that are selected to match the intended use and paint type.

In the metal sector, we also offer the option of adding a conveyor system for easy, effective painting. A range of dimensions, weights and shapes are taken into account to ensure the most appropriate conveyor system design.





Wood & plastics

The wood and plastics industry involves everything from SMEs to major players. Sima is ready with a different solution for every client. With over 25 years of experience in the sector, we offer plenty of expertise.

For small-scale spray jobs, it is best to work with a suitable spray wall. For larger projects or jobs with high quality or environmental requirements, closed booths or integrated spray lines can be developed.

Spray walls – available in any dimension and with the appropriate extraction capacity – can be used to spray paint, polyester or adhesive. They can be equipped with ledges, lighting, full-ceiling filters, etc. as required.

Closed booths are offered in a range of models, e.g. with horizontal, vertical or semi-vertical ventilation. Dry filtering can be achieved using a cardboard pre-filter in combination with paintstop, or other filter systems (combinations of Andreae-Paintblock, Edrizzi-Paintblock, etc.) can be used.

In this sector as well, we offer full service from the design phase right through to delivery. First, the client's needs are defined. Then, the project is designed accordingly and the necessary components are manufactured. In addition to our flawless assembly and commissioning services, we also offer outstanding after-sales service.



"In the wood and plastics sector, you can also choose to have a transport system included."





Railway industry

In the railway industry, most investments tend to be large-scale in nature, due to the high quality standards and ROI (return on investment) requirements involved. Our experience with various clients (including Siemens, Bombardier, Alstom, Transmach, EKZ, DB, SNCF, NMBS, and others) means we are well placed to respond to the demands of this sector.

In large-scale installations such as these, one major concern tends to be ensuring energy efficiency. With this in mind, we have developed our own innovative system of fractionated ventilation. This system allows only that part of the spray booth where spraying is taking place to be ventilated. This dramatically reduces consumption.

Spray booths can also be designed to allow all

phases of the spraying process to be completed in the same booth. Each step can be completed in a separate run with its own specific parameters for the spraying, finishing, interim drying, flash-off and final drying phases.

For rolling stock, the project can be designed to include installations where the object remains stationary and only the sprayer moves (e.g. using lifts). Sometimes, however, it is better to opt for a fixed spray position combined with a moving railcar.



“The railway industry brought considerable growth for Sima in the lean years of the crisis. In that period, the French government decided to step up public investment, including in the railway industry. French train builders acquired their spray booths from the well known Belgian company based in Mouscron. Once again, Sima proved its expertise in large-scale industrial projects abroad.”



3D lifts

Rolling stock, and in particular railcars, are bulky objects. To deal with their large size whilst ensuring a comfortable, ergonomic workspace for operators, spray booths can be equipped with lifts. We obtain our lifts from our partner in the Saca Group: Alfadis Platforms. Their hydraulic, pneumatic or electric lifts improve the quality and durability of the spraywork and ensure a high level of operator comfort.

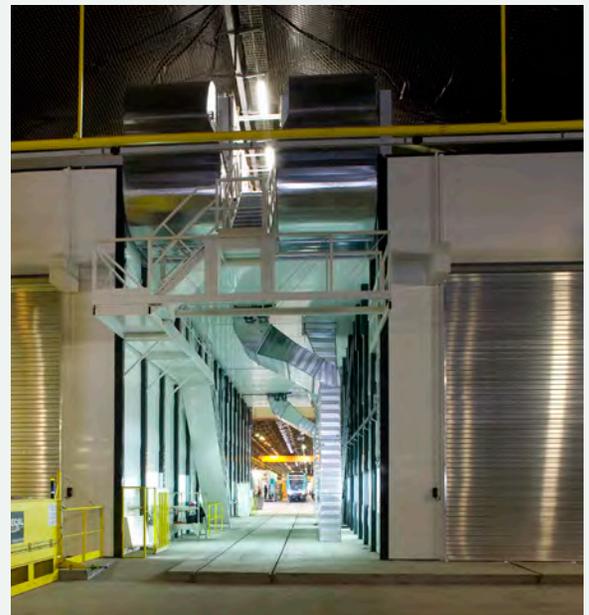




Adapted infrastructure

The amount of excavation work to be done at the start of a project will depend entirely on an installation's efficiency and ergonomic requirements. Often, Sima will design the excavation so that the lifts can work below ground ("0") level, thus ensuring better access to the carriage.

To save space, the technical components (ventilation unit, electrical cabinets) can often be installed above the spray installation.





Paint lab / paint storage

Paint labs and storage rooms are custom-built to suit the available space and the appliances needed (mixing tables, paint gun cleaners, scales, etc.). These spaces are equipped with built-in lighting and (ATEX-compliant) ventilation and meet fire safety specifications.

Often, the ventilation and lighting system controls will be connected so that one can't be used without the other. This promotes a safe use of the space. Sima also offers the option of installing climate control (heating/cooling) in these rooms.





Aviation

In the aviation industry, surface treatment procedures must meet a number of stringent conditions. Strict requirements must be met regarding air quality (filter classes), temperature (heating and/or cooling), humidity levels and more. However, Sima is happy to rise to this challenge and has many satisfied customers to show for it (including Airbus, Asco Industries, Stelia aerospace, Sonaca, STTS, and others).

In the aviation industry, surface treatment is considered to be absolutely essential and must be integrated into the production process. This is why we constantly strive to foster client relations that involve close collaboration between engineers and the client, including detailed discussions of every aspect, throughout the process. After all, aviation work can involve anything from the spraying of an entire helicopter to the treatment of an aircraft wing.



In the aviation industry as well, it is possible to opt for a solution that covers the complete process in a single line (preparation, washing, spraying, oven, etc.). Sima can design, produce and assemble entire spray lines. The process can also be fully automated.



Data logging

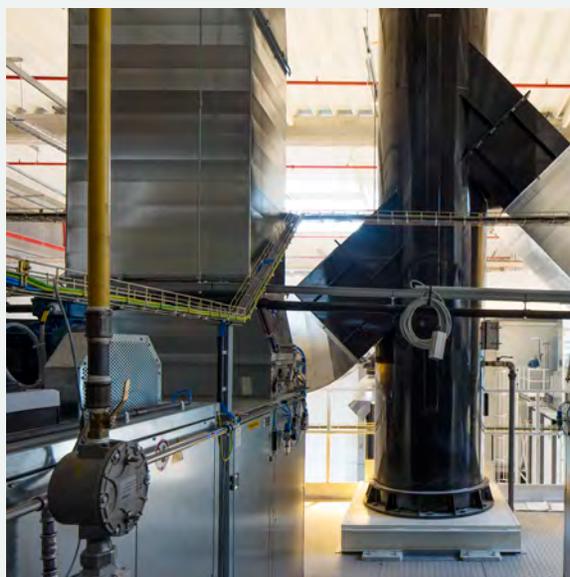
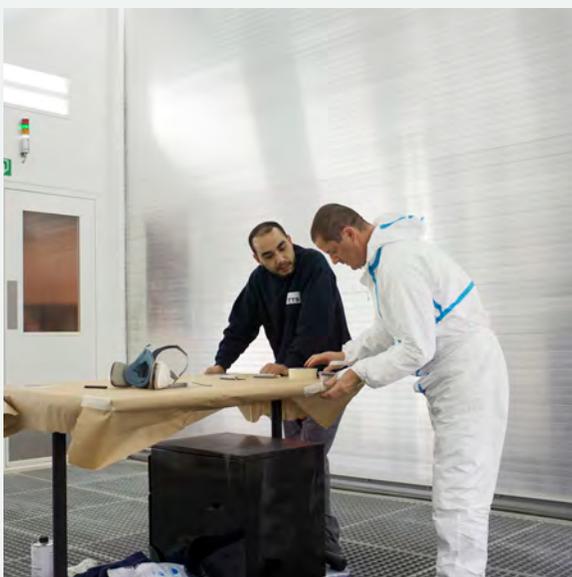
The traceability of air conditions in spray booths is very important in this sector. For this reason, independent meters can be installed to record data such as temperature and relative humidity with the necessary accuracy and over time. The data can be stored for later use via USB or Ethernet link.



Aircraft are even more difficult to spray than trains. In particular, sprayers often find it difficult to access certain components. That's why we also offer our aviation clients hydraulic, electric or pneumatic wall lifts from Alfadis Platforms.



In aviation work, as in other sectors, it is important to ensure proper filtering of incoming and outgoing air, not only to protect the environment, but also to improve the durability of the spray installation and the results of the spraying. For this, we employ various filters (pre-filters, fine filters and paint overspray filters). The paints used in the aviation industry tend to be made of quite specific, even hazardous, materials, meaning that HEPA ultrafilters must often be used. Our partner in the Saca Group, Alfa.dis Service & Filters, is an expert in this field, and is introduced elsewhere in this brochure.





Conveyor systems

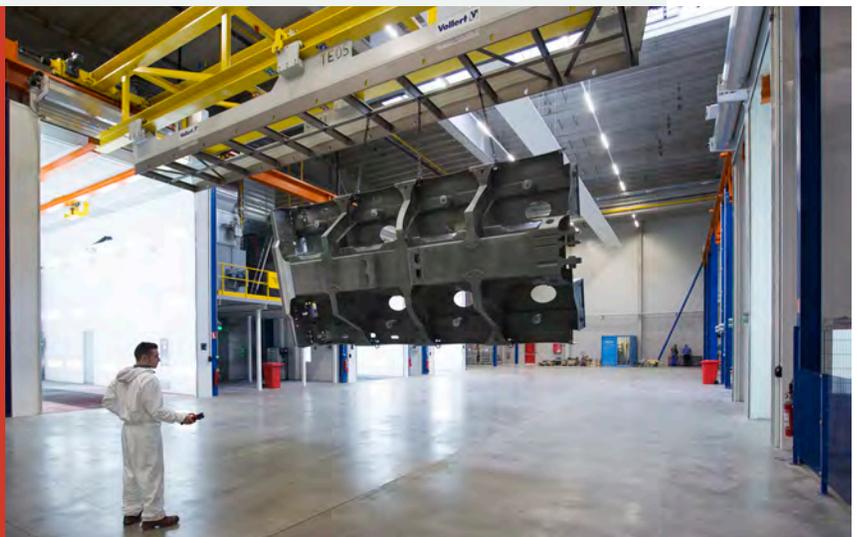
Sima can improve an installation's efficiency by adding a conveyor or transport system. This system can be designed for manual, semi-automatic or fully automated operation, depending on the parts to be treated, the client's needs and the building where it will be housed.

Overhead or floor transport solutions ensure efficient use of your space and time, limit damage to parts and also considerably reduce the likelihood of operator injury.

- **Monorail:** Here, loads are mostly moved manually.



- for use in different sectors
- automated, semi-automatic or manual operation
- transport of large parts
- easy to spray many small parts



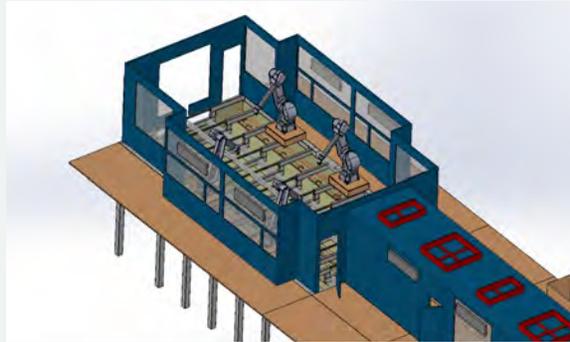


Robot installations for automotive or industrial applications

In today's economy, robots are used for their speed and their ability to ensure quality in repetitive tasks - both key factors in remaining competitive. This explains why the use of robots has been growing so rapidly. This trend has also been observed in the field of industrial surface treatment, where spray robots have made their appearance. This all-in-one solution ensures maximum precision, productivity and profitability. The result: reliable workmanship.

A robot's manoeuvrability is determined by the number of axes it has. The most common models have five to seven axes. Three axes control the basic movements, while the remaining axes facilitate the dexterity of the spray nozzle. Sometimes, a seventh axis is used for horizontal displacement.

We can install anything from a single spray robot to a fully integrated line of (spray) robots, depending on the client's wishes. Spray robots are used not only in the automotive industry, but also in aviation, the wood industry and elsewhere.



We offer all-in-one solutions for this type of project as well. In consultation with your paint supplier, we will select everything from the paint preparation and distribution (from paint room to spray booth) to the robot and the nozzle type to be used.

The pump room will be designed to match the quantity and properties of the products used and in keeping with ATEX and fire safety specifications.





TECHNOLOGY

Our projects may be custom-designed, but we still base all our work on clear underlying principles. By respecting these principles, we ensure that each and every one of our spray booths will deliver the best possible results.

Ventilation

A booth must be properly ventilated to ensure both operator health and optimal spraying results. A combination of blowers and extractor fans ensures a constant intake of fresh (filtered) outside air and extraction of dirty (filtered) booth air.

The airflow can be adjusted in different ways:

Below you will find a brief explanation of the various technical specifications. To simplify things, we have divided the information into different categories.

- **Vertical airflow:** the air flows vertically from the full-ceiling filter to the floor gratings.
- **Diagonal airflow:** the air flows diagonally from the full-ceiling filter to an extractor wall or partial floor grating, or both.
- **Horizontal airflow:** the air flows horizontally from a filter cabinet to an extractor wall.



The choice of airflow depends on a range of factors. Firstly, you need to consider the object to be treated. This factor will have a major, immediate impact on your choice, as its shape and weight can be decisive. Secondly, you need to run a cost-benefit analysis, with the size of the investment and the quality of the offer as factors. A vertical airflow is more expensive to install, as excavation works are required (for the floor grating). Diagonal and horizontal airflows, for their part, are linked to lower energy costs, but are less effective at controlling overspray.

There are thus pros and cons to each type of airflow, and account must also be taken of each client's specific situation. The best choice to be made in each case will be determined in consultation with our experts.

Energy efficiency

These days, we are all looking for ways to reduce our energy bill. Businesses are also increasingly investing in energy-efficient technologies. Sima wants to lead the field in this area and has therefore developed various methods to optimise the energy consumption of an installation. Because a spray booth is a major drain on energy resources. In addition to saving on heating, we are therefore also trying to reduce the overall energy bill in other ways too.

Heat recovery

As explained above, heating is one of the main energy guzzlers in a spray installation. This is why we have developed a number of solutions to



recover heat. One method uses **cross-flow heat exchanger plates**. This method consists of installing a battery of thin aluminium plates in the ventilation unit. This heat recovery system uses the heat from the outgoing air to warm the incoming air. As a result, less heat is lost, which translates directly into savings on your heating bill. A **pump system** physically separates the air intake and extraction, while the heat transfer between the two flows takes place in the medium between the two batteries of plates. Each of these systems can lead to savings of up to 55-60%. Additional outlay is obviously required to install the system, but this is quickly recovered.



Electricity savings

After heating, lighting is another major user of energy in a spray booth. Sima is therefore also taking action here to find more efficient solutions.

First and foremost, the use of **frequency regulation** helps reduce consumption. This system eliminates peak currents at startup. In addition, it ensures that only the power needed to maintain the required flow rate will be used at any time. The TOUCH3 control panel allows operators to easily switch between three pre-set flow rates, which translates directly into lower electricity and energy bills. Installing frequency regulation on both the intake and extraction sides therefore enables flow rate to be adapted and leads to much lower consumption charges.

Also, Sima uses **LED lighting**, meaning that up to 1/3 less power is required than in traditional installations.



IRS & QDS

The **IRS (Integrated Recycling System)** eco-system places the booth in recycling mode whenever the apparatus detects the absence of compressed air usage. This prevents unnecessary waste of gas and electricity.

The **QDS or 'Quick Dry System'** speeds up the

interim drying process. After the first coat of paint has been applied, an interim drying phase is needed. The QDS system allows the temperature to be increased briefly in the spraying phase. This means less energy will ultimately be used than if the system were to go straight to the drying phase. The idea is to keep it 'short and sweet'.

Controls

Sima's spray installations can easily be operated from a central control cabinet and touchscreen. These make the different booth functions easy to control. With a few quick taps, the operator can switch the installation between spraying, flash-off (evaporation), cooling, drying or high-temperature drying modes.

Control cabinet

The control cabinet contains all the controls required to operate the installation's functions. This cabinet contains the main switch, the required safety features and the temperature display for the spray booth. The control cabinet is generally located near the ventilation unit. To make operation even more efficient, the cabinet is connected to a touchscreen. This panel is always located near the spray booth.



Touchscreen

The operator can use the touchscreen to regulate the booth's phases, temperature, lighting, ventilation, etc. Depending on the type of investment and the client's wishes, either a TOUCH1 or TOUCH3 touchscreen can be installed. The TOUCH1 model offers one ventilation status option while TOUCH3 offers three pre-set options (1, 2 & 3). The most cost-effective option can therefore be selected for each object.



Heating

There are different heating options for the spray booths. We will work with you to choose the best solution, based on the situation and the type of energy supply.

Gas or fuel oil

When city gas is available, lines can easily be connected to the municipal network. If this is not possible, you can opt for a solution that uses a propane tank or fuel oil. In the latter case, one must consider that this will involve greater emissions of hazardous substances during the combustion process, more heat loss and unavoidable temperature fluctuations.



Direct or indirect fired heaters

With direct fired heaters, incoming air is directly heated by the flame in the intake unit, leading to minimal waste. With indirect fired heaters, however, much more energy is wasted, as warm air is used to heat the incoming cold air.

If safety regulations prevent the use of open flame in the unit, you can choose to heat the air with water, steam or electricity.



Filters

Given the constant intake and extraction of air in a spray installation, it is important to ensure proper filtration. Filtration is not only important for ensuring good spraying results, but also helps protect the environment.

All installations have their own pattern of filter requirements. It is important to find the right combination to ensure proper removal of fine particulate and paint matter. Sima uses **Alfa.dis Service & Filters** for the supply and proper installation of the right filters.



Pre-filters and ceiling filters

Pre-filters are used to provide an initial cleaning of the incoming air. These filters are installed in front of the fan as the first line of defence against dirt. Depending on the situation, different grades of pre-filter can be used: EU4, EU5, EU8.

Ceiling filters or fine filters take it a step further. As the name implies, these filters will remove even the smallest particulate matter from incoming air. This ensures that the air being blown into the booth is clean.



Extractor filters or paint overspray filters

Depending on the type of airflow selected, these filters will be installed in either the floor gratings or the side wall. An **extractor filter** contains all paint overspray and other impurities and prevents them from leaving the spray booth. Various grades are available here as well, and the choice of grade will depend on the spraying frequency. You can choose between Paintstop, Andreae, Columbus, Edrizzi or Paintblock, with the latter offering the best filtration.



Post-filters

Post-filters are not used in every installation; their use will depend on the spraying frequency and type of product. These filters perform a final filtration of the outgoing air. They are installed after the floor filters, the first extractor filters, but in front of the extractor fan. These filters are also available in EU4, EU5, active carbon and even HEPA grades (which filter out carcinogenic substances).



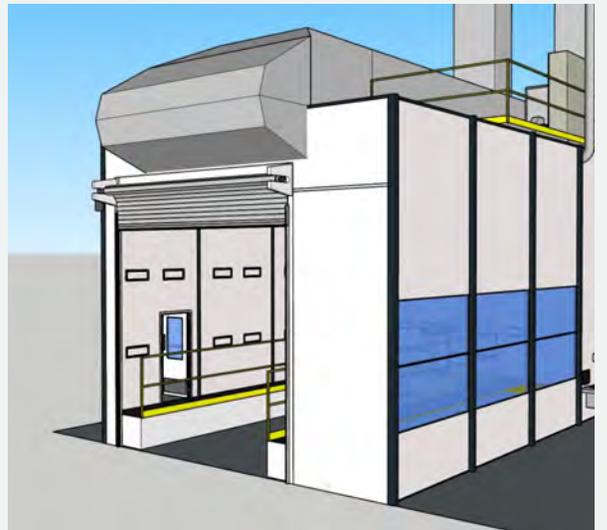


MORE THAN JUST SPRAY BOOTHS

Sima offers more than just spray booths. Whenever clients come to us with a specific request, we always listen very carefully to what they have to say. After all, surface treatment is about much more than just spraying.

With our experience and expertise, we have successfully implemented a number of projects that have taken us beyond our core business of supplying spray booths. Clients can call on Sima to supply ovens, drying chambers, washing booths, muffle kilns, locks, water test booths and more.









ALL-IN-ONE

As part of the Saca Group, Sima is able to provide all-in-one solutions. Together with our partners in the group, each with its own field of expertise, Sima can meet many of your surface treatment needs. This ability to offer all-in-one solutions is just one of the company's many strengths.

Alfadis Platforms

Sometimes, it is simply not possible to treat a part or component at the ground-floor level. Fortunately, in such cases Sima can use access platforms from Alfadis Platforms, part of the Saca Group. Our sister company offers **hydraulic, pneumatic and electric lift solutions** that allow you to work safely at height. Their cherry pickers are modern, computer-operated machines that can be moved along three axes. They are designed in-house using CAD tools and

For 3D wall lifts, Sima uses the services of **Alfadis Platforms**. High-quality surface treatment tools are supplied by **Vip Tools**. Our go-to expert in spray installation filters and maintenance is **Alfa.dis Service & Filters**.

manufactured using a flexible production method. Customised installation is performed in line with the client's needs and wishes, and the 3D access ensures faster, more ergonomic, better quality work. (www.alfadisplatforms.com)





Vip Tools

Vip Tools – which joined the Saca Group in 2011 – is the importer and distributor in Belgium and Luxembourg of **exclusive, high-quality European spray booth accessories**. This Antwerp-based company is a distributor for **SATA** spray apparatus, **IRT** drying systems, **Drester** cleaning apparatus, **Rupes** polishing systems and **Scangrip** lighting, among others. Preparation zones, mixing labs and spray booths can be fully equipped with products from these top brands' ranges.

In addition to offering top-quality products, Vip Tools also provides premium service. Their expert consultants will help you get to know the products better by providing technical information and demonstrations. Vip Tools' in-house technical support team also offers a repair service for spray tools. (www.viptools.be)

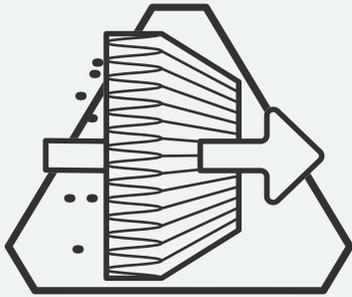




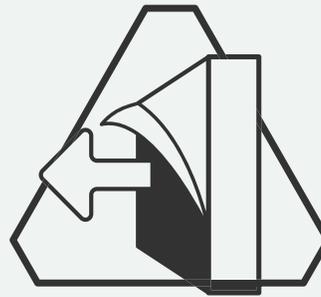
Alfa.dis Service & Filters

Since its creation in 2000, Alfa.dis Service & Filters has become a household name in the maintenance and protection of spray installations. Its services to professionals include the timely replacement of filters and the proper protection of booth interiors. Its experts are also available to help in the event of

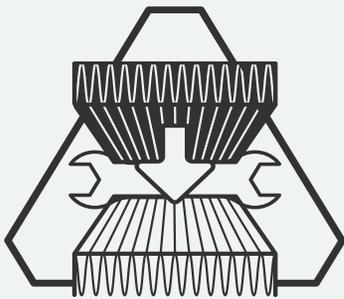
technical malfunctions. (www.alfadis.be)



Their **broad range of air and paint overspray filters** ensures speedy delivery and fast, customised service. Their installation team also boasts years of experience.



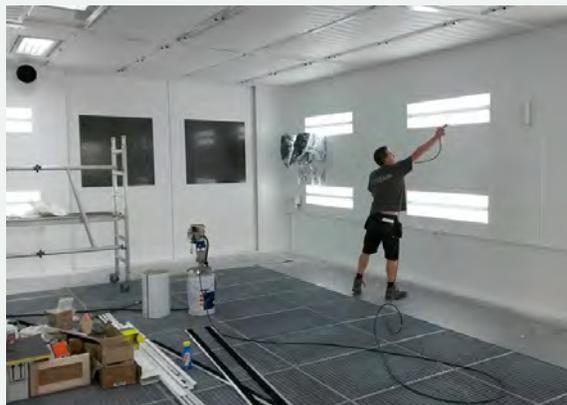
When setting up a new **spray booth**, it is important to fit it with the proper **protection** first. This will help you control overspray when painting.



Alfa.dis Service & Filters also provides **mechanical maintenance** of spray booths. They will also conduct annual **burner maintenance and control measurements** on the spray booth.



To make it easy for you, Alfa.dis Service & Filters offers a **customised maintenance contract**.





PAINT TO
BRIGHTEN
YOUR FUTURE.

QUALITY

INNOVATION

PASSION