

# ON THE SAFE SIDE

Together we can protect life and property  
in great living places while preserving  
our environment and the future of all.

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**vetrotech**  
SAINT-GOBAIN



## **Carnal Hall, Rolle, Switzerland**

The new concert hall of the prestigious Le Rosey boarding school is a fine example of how our solutions can be installed without any compromise on the building's appearance or comfort. By using Vetrotech solutions this building was able to benefit from excellent sound reduction, durability and optimum transparency with complete freedom of design.



“Vetrotech: the original fire-rated glass specialist since 1980.”

# PROTECTING LIVES AND PROPERTIES IS VETROTECH’S GREATEST MISSION

Let’s accomplish this goal together!

Many years have passed since the foundation of Vetrotech as part of the Swiss-based group Giesbrecht Glas AG and its later acquisition by Saint-Gobain in 1995. This allowed us to become part of the impressive 350-year-old history of Saint-Gobain. As a result, Vetrotech was able to step up its development to become the industry reference in the field of fire-resistant and high-security glass for application both on land and at sea. It is with a pioneering spirit and entrepreneurial passion that we aim to comply with 21<sup>st</sup> century architectural demands for aesthetics, performance and comfort. All the while we keep in mind our ultimate mission: protecting life and property in great living places, while preserving our environment and the future of all.

We promise our customers the consistent delivery of industrial excellence and reliable performance of not just high-volume standard solutions, but also in value-creation for their more complex offerings with top quality and multifunctional products. Regardless at which site our products are made, they are produced on comparable equipment to the same high quality standards. On average, we conduct a fire or security test somewhere around the world at least once a day. Whether in our own accredited fire resistance laboratory or shooting range, or at any number of third party facilities, our team of expert technicians stand side-by-side with you to achieve the results you need. This is how we help our customers to respond to the ever greater safety and security challenges faced today. Together, in an atmosphere of confidentiality and trust, we can tackle any project ranging from new system developments to custom project applications.

**Guillaume Le Gavrian**  
CEO Vetrotech Saint-Gobain International AG



## No. 1 Forbury Place, Reading, UK

This complex building project is a symbol of the pioneering innovation approach of Vetrotech Saint-Gobain to provide complete design freedom to architects. Over 1'300 m<sup>2</sup> of Contraflam Structure – the butt-joint fire-resistant glazing system – serve as core design element of the seven storey, four-sided glass walled atrium. This is the largest glazing installation of its kind in Europe. In addition, it also showcases the very first installed 4'400 mm high Contraflam Mega on the ground floor.

# ABOUT VETROTECH

We were the first company uniquely specialized in the development, manufacture and distribution of sustainable fire-resistant and security glass of the highest resistance classes. For us, there can be no compromise: people's safety always comes first. We offer the best operational efficiency for our customers, maximum comfort and peace of mind for our end users, and superb aesthetic quality and multifunctionality for designers and architects all around the world.

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Founded **1980**  
in Switzerland



Active in more than  
**60** countries



**7** primary production  
sites on 3 continents



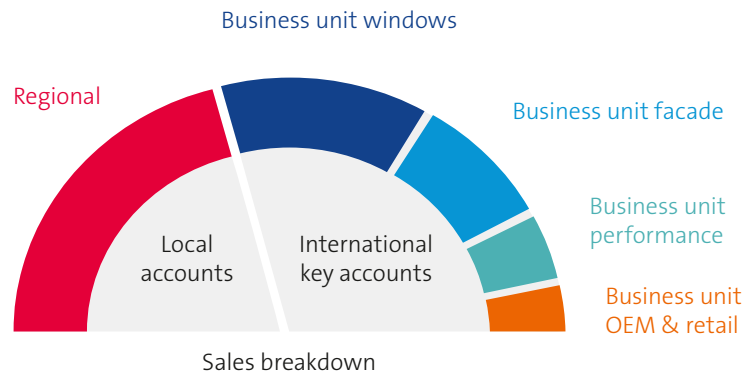
Over **840** employees  
worldwide

# SAINT-GOBAIN BUILDING GLASS

We provide high performing and innovative glass solutions, helping to create great living places and improve daily life, while preserving the future of all. Our customers are key players in the Glass sector: installers, processors, manufacturers and distributors. With all of them, we want to reach one ultimate goal: the building occupants' wellbeing. In every living and working place, wherever comfort, performance and safety are required, we answer to our customers' needs in four major fields: facades, windows, interior design and protection.

## Customer-oriented organization

In order to better answer our customer needs, we have constructed a made-to-measure organization: the "regional" businesses take care of the diffuse market (local glaziers, installers, etc.) and 4 European "business units" support large key accounts. This customized organization allows us to better understand the needs of each of our customers and to bring them value.



## Key Figures

**200**  
sites

**15'000**  
employees

**25**  
countries

**350**  
years of  
experience





## New Saint-Gobain Tower, Paris, France

Designed to be the future showcase for Saint-Gobain's image and expertise, the new Saint-Gobain headquarter aims to achieve an exemplary level of environmental quality and energy performance by focusing in particular on compliance with the group's comfort standards for the benefit of its future occupants. To demonstrate the exemplarity of the project, both in terms of comfort & sustainability, a triple certification is targeted, in their best levels (LEED, BREEAM and HQE).

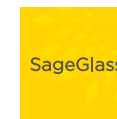
Vetrotech is part of something bigger.  
Benefit from a strong & reliable brand network.



High-performing and innovative glass solutions for every living and working place where comfort and safety are required



Fire-resistant and high-security safety glass



Dynamic, tintable glass

**SWISSPACER**

Warm edge-spacer bars for insulating windows



Integrated processing and distribution network for high-performing glass solutions



Partners processing and distribution network for high-performing glass solutions

# OUR SUSTAINABILITY JOURNEY

This commitment is driven by our Glass Forever program, with the help of all our stakeholders: employees, customers, partners, suppliers... From small seeds to big rivers, our vision is to grow and differentiate our business, while improving our environmental footprint and increasing our contribution to people's well-being.



Limit our environmental impact

- All our glass factories (floats) are environmentally certified (ISO 14001).
- We are 100% committed to achieving Saint-Gobain's 2010 – 2025 targets (at ISO production baseline 2010) with significant reductions in:
  - Energy consumption -15%
  - Total CO<sub>2</sub> emissions -20%
  - Non-recovered waste -50%
  - Industrial waste water discharge in liquid form -80%



Encourage employee development

- We are driven by our “zero accidents” policy at all production sites and offices.
- For new and senior employees, we offer a full range of trainings to boost their education, efficiency and performance at work.
- The average time of employment in Building Glass Europe is over 13 years. A good sign that our employees enjoy working for their company.



Invent sustainable buildings

- 30% of our glass is made of recycled glass.
- Installing Vetrotech Saint-Gobain glass in an office can contribute to ensuring the right amount of daylight, hence increasing worker productivity by 18%, while at the same time protecting them from attacks or fire.
- As a testament to this engagement, our Romont plant and offices are remarkably energy-efficient.
- The environmental impact of our products is monitored vigilantly during production and also throughout their entire life cycle.
- Our products contribute to the requirements of international building schemes such as LEED, BREEAM, DGNB and others.
- By 2040, we are intending to reduce greenhouse gas emissions from all Saint-Gobain tertiary buildings by 75% through our internal CARE:4 program.



Take actions across the supply chain

- We are located all over the world with manufacturing facilities as close as possible to the main construction hot spots, ensuring that we can respond promptly, and that our materials are sourced locally to minimize transportation.
- 15% of our “inloaders” (special glass trailers) are used multimodally for rail and sea.
- Our major suppliers engage with us by signing our responsible purchasing charter.
- All trucks used by Vetrotech Saint-Gobain are required to follow the Euro 5 or 6 standard: their loading is optimized and drivers are trained in eco-driving.





## Support local community development

- Our Saint-Gobain Foundation has to date backed 115 projects, committing €7.3 million to the construction and renovation of comfortable, affordable and sustainable housing.
- Vetrotech Saint-Gobain is a sponsor of the Romont's Vitrofestival that takes place every two years in Romont, Switzerland, and promotes glass art, stained glass and contemporary glass design.
- The Vetrotech headquarter, located in Flamatt, Switzerland, participates in the nation-wide Swiss "Clean-Up-Days" as a commitment to get rid of waste in the local surroundings.



  
**GLASS  
FOREVER**  


OUR MISSION IS TO CREATE  
GREAT LIVING PLACES AND  
IMPROVE DAILY LIFE, WHILE  
PRESERVING THE FUTURE  
OF ALL.



# MORE THAN JUST GLASS

For us, people always come first. This is why our mission is to protect life and property in great living places together with our customers. At the same time, we guarantee ultimate operational efficiency for our customers, maximum comfort and peace of mind for our end users, and superb aesthetic quality for designers and architects all around the world.

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## MISSION

We ensure that our innovative life-safety products offer impeccable functional quality and reliable performance to protect life and property at all times, while also preserving the environment.



## VISION

We want to be globally recognized & perceived as your most reliable partner in the market of fire-resistant and high-security glazing solutions for beautiful and secure living places.

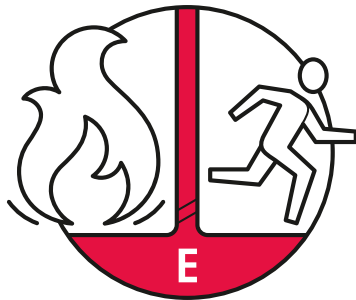


## PROMISE

We enable our customers to successfully deliver their most ambitious projects by providing them with the most appropriate solutions and technical support.

# FIRE-RESISTANT GLASS

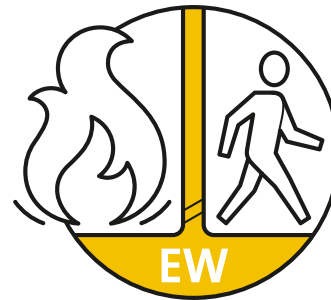
Life-safety, fire-resistant glazing solutions that will not only keep people safe, but will protect the building itself. Our glass solutions suit the requirements of a complete range of building applications.



Integrity

Did you know that most fatalities resulting from fires are caused by smoke inhalation? With E-class fire-resistant glass, you make sure that openings due to early breakage or melting of the glass don't risk people's lives. Standard float, wired and tempered glass offer little or no resistance in case of fire. E-class fire-resistant glass provides a physical barrier against passage of flames, smoke and hot, toxic gases.

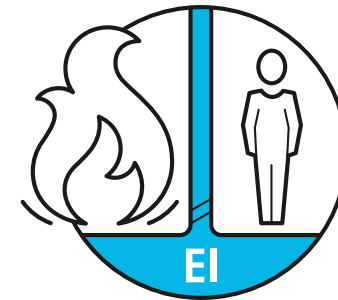
**Pyroswiss**  
**Keralite**



Radiation Reduction

Did you know that fire can also spread by way of heat radiation? By reducing the amount of energy passing through EW-classified fire-resistant glass you can certainly prevent fire from spreading and create safe evacuation passages. Fire-resistant glass tested in accordance with the EW classification provides similar protection to E-class fire-resistant glass, but with the added benefit of limiting the amount of radiant energy that passes through the glass to less than 15 kW/m<sup>2</sup> at a separation distance of one meter.

**Vetroflam**  
**Contraflam Lite**



Insulation

Did you know that fire can be completely insulated to keep secured areas almost unharmed? EI-classified, fire-resistant glass compartmentalizes and prevents spread of fire, while ensuring safe evacuation. Fire-resistant glass with the EI-classification provides similar protection to integrity glass, plus high-level thermal insulation. This serves to compartmentalize fire and protect critical fire-separation areas.

**Contraflam**



## Systems

Did you know that Vetrotech develops and offers special fire system solutions such as fire-resistant butt-joint systems, smoke barriers and doors? Special glazing and door solutions with fire-resistant characteristics are not only made of fire-resistant glass, but are part of holistic, tried and tested life-safety systems.

**Contraflam Structure**  
**Pyroswiss SBS Lunax Doors**

### Did you know?

Due to the pendulum impact classification 1(B)1, according to EN 12600, our Contraflam glasses are also considered laminated safety glasses by EN 14449 stipulation and can, therefore, be used as safety rails with fire-resistant properties without additional laminated interlayer.



EPFL, Lausanne, Switzerland

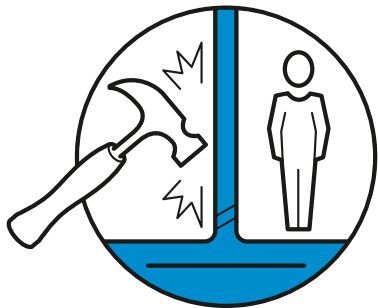
Did you know that it takes more than 70 blows from an axe into P8B attack-resistant security glass to create an opening large enough for an intruder to enter?

British Embassy, Warsaw, Poland



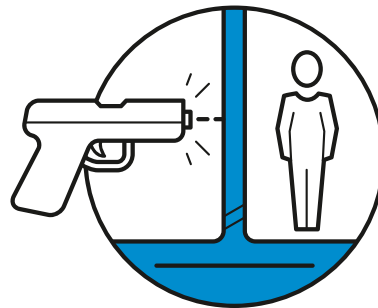
# HIGH-SECURITY GLASS

Protecting people and property is our mission – with our range of high-security glass we enable customers and partners to join us in making this world a safer place. When it comes to protection of people there can be no compromise in the choice of security precautions.



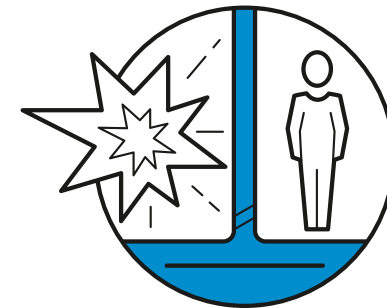
P6B - P8B  
Attack resistance

Did you know that standard laminated glass can be overcome in a matter of seconds? Attack- and intrusion-resistant security glass protects people, properties and valuable possessions from forced entry and willful manual impact.



BR1 - BR7 / SG1 - SG2  
Bullet resistance

Did you know that a bullet from an Kalashnikov AK-47 impacts a surface with the speed of up to 2,500 km/h? High-performance laminated bullet-resistant glass withstands the impact of the corresponding ammunition in accordance with the respective classification.



ER1 - ER4  
Blast resistance

Did you know that the shock wave of an explosion can transform standard glass into deadly projectiles? Designed to be flexible, blast-resistant glass remains in its tested frame by absorbing the force of blast waves according to the respective blast-resistance classification.

Vetrogard  
Polygard

# MULTIFUNCTIONALITY

We at Vetrotech are dedicated to delivering glass solutions with industrial excellence and reliable delivery but also to making your projects as special as possible. This is why, in addition to delivering standard solutions, we offer you an extensive range of glazing options & features.



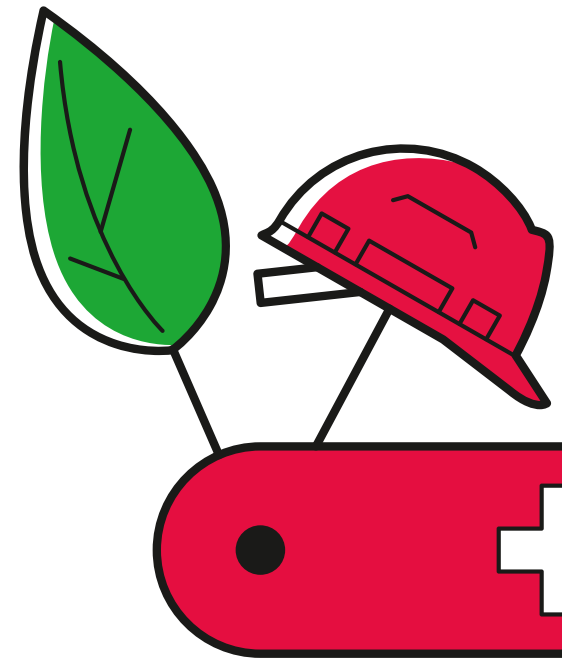
## Safety

- + Protection** The PRO range offers security and confidence in the face of the combined threats of physical penetration and fire, ideal for fire doors & sidelights.
- + Alarm** SECURIT ALARM sounds an active alert when broken for an elevated need of precaution.
- + Floors** Bring natural daylight deep into the building with LITE FLOOR, a walkable or drivable glass floor/skylight with fire resistance up to 2 hours.
- + EMS shielding** EMS STADIP is the right solution to block electromagnetic radiation, to protect equipment from electronic interference or prevent eavesdropping in sensitive areas of a building.
- + Radar interference** CONTRARADAR can increase flight safety by preventing unwanted radar reflection to control towers from nearby buildings.
- + Clear view** THERMOVIT electrically-heated glass guarantees a safe view to the outside by preventing the creation of condensation or frost.



## Sustainability

- + Double glazing** Thermally insulated CLIMAPLUS with Low-E coating is key to reducing the energy consumption of buildings and maximizing natural light – resulting in a smaller impact on the environment.
- + Triple glazing** Go the extra mile with CLIMATOP by getting the highest insulating properties with triple glazed units – our planet will thank you!
- + Solar control** Interior spaces are protected from over-heating while managing daylight with the range of Saint-Gobain solar control coatings such as COOL-LITE. A cool and sustainable solution.
- + Tinting** PARSOL is our range of body-tinted glass. Choose your colored appearance and desired visible daylight transmission properties.
- + Self-cleaning** SGG BIOCLEAR glass limits the need for chemical cleaning materials or large amounts of fresh water. Who doesn't want less cleaning?





Did you know that Vetrotech has a portfolio of nearly 17'000 product combinations ready to deliver?

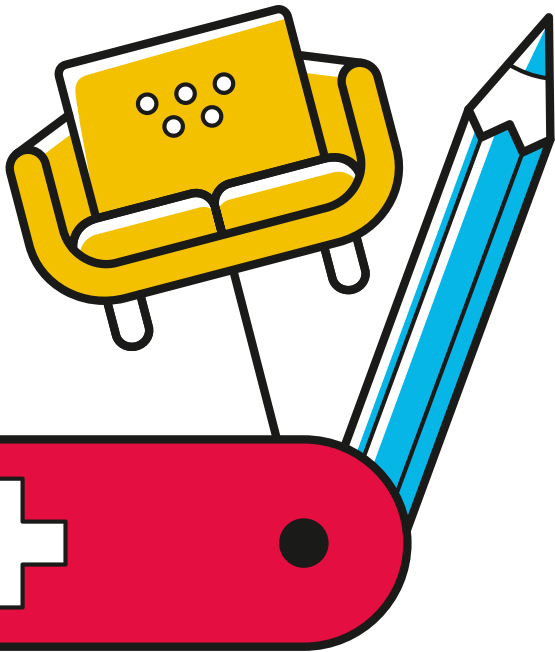
## Comfort

- + Noise control** STADIP SILENCE is the best solution for acoustic insulation to help you concentrate and create your quiet space. Keep unwanted noise out.
- + Dynamic privacy** There are moments when you need privacy, and others when you want openness. With PRIVA-LITE we have the perfect solution for dynamic privacy and transparency function.
- + Screen** For an extra level of privacy and sun protection our SCREEN solutions come with integrated manual or motorized blinds for individually operable vision control.
- + Extra clear** With DIAMANT glass you can achieve maximum transparency and daylight transmission with a neutral aspect for true colors.
- + Climate control** Managing temperature and daylight are crucial to feeling comfortable in buildings. With thermal insulating glass units such as CLIMAPLUS or CLIMATOP we can adapt ambient conditions in any season of the year.



## Design

- + Coloring** Limitless color options await you with laminated STADIP COLOR or EMALIT enamel-colored glass.
- + Screen printing** SERALIT is perfect for applying repetitive patterns such as dots, stripes, squares, logos, or whatever crosses your mind, on a glass surface.
- + Digital printing** PICTUREIT can be used to permanently print complex patterns, pictures and text on glass surfaces and create unique designs.
- + Shapes** Glass is very dynamic and so are the forms that you can create with it. We offer a wide range of different shapes to realize your modern architectural designs.
- + Curving** Architects often use bent glass to make their structures look and feel more natural. Many of our products can provide curved solutions.
- + Etching** Use translucency to bring a special touch with SGG SATINOVO.



# BUILDING SEGMENTS

Complying with the diverse needs and requirements of varying building types can sometimes be very challenging. The risk levels are often different and must be addressed by individual means. Over the course of many years we have learned to understand those challenges and have gained extensive experience in all building segments.

We believe that our joint expertise is key in fulfilling the special requirements of your projects by going beyond delivering standard solutions. Together with our team of technical engineers and trusted commercial experts you can be sure to be on the safe side.



## Healthcare



Southmead Hospital, Bristol, UK

### SAFE ENVIRONMENTS FOR FASTER RECOVERY

The benefits of daylight, transparency and comfort, while also ensuring safety and privacy, are proven to increase patients' well-being as well as their speed of recovery. Good architecture in the health-care segment also increases the attractiveness of medical facilities as workspaces, enables staff to make good decisions and, therefore, improves the quality of care.



## Hospitality & Leisure



Fairmont Hotel, Vancouver, Canada

### ENSURE YOUR GUESTS' SAFETY IN A BEAUTIFUL ENVIRONMENT

Outstanding, multifunctional architecture is a key element of hotels, restaurants, conference centers and other leisure facilities to attracting guests, ensuring their satisfaction and inviting them to return. Guests' safety and privacy are paramount, while creating open and recreational spaces is important to making their stay a relaxing one.



## Commercial



Shopping Mall Beaugrenelle, Paris, France

### INCREASE PRODUCTIVITY AND SUCCESS

Ensuring pleasant working environments is fundamental for companies who wish to recruit and retain the best talent and increase their productivity. In turn, well-designed retail environments have an impact on consumers' shopping habits and may well increase the conversion rate and boost your business.



## Public & Transport



Prison Pl De Koepel, Breda, The Netherlands

### LIFE-SAFETY AT ANY TIME AND PLACE

In public buildings where people come together, protection against physical attacks, fire and smoke are imminent requirements when also keeping them open and accessible. Wherever entry or escape must be controlled, glass is the right solution to ensure safe evacuation in the event of fire, while providing security against outside as well as inside threats without compromising the building's openness.



## Education



Institute of Physics, University Rostock, Germany

### ENVIRONMENTS FOR STUDENTS TO THRIVE

Our professionals of tomorrow are our most important and valuable asset and need the highest protection available. Modern education facilities must create safe, luminous and open environments to promote less fluctuation of teachers and staff, resulting in high-quality education. It is proven that daylight has a positive impact on students' performance and their ability to learn.

# MARINE SEGMENTS

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## Passenger Ships

There are few environments more unforgiving than the high seas. Seamen have to navigate their vessels through strong winds, powerful waves, while enduring extreme temperatures and a lot of noise on commercial vessels and rigs. At the same time, the need of the crew's and property security against piracy is higher than ever.

Yet, however demanding the environment or threat, you can trust Vetrotech to support you in finding or developing the right solution for your needs on open seas.



The world's largest cruise ships and most innovative ferries use Vetrotech's glass solutions to enhance the passenger experience and benefit from weight savings, reduced energy consumption, and safety.



## Offshore



Vetrotech glass solutions offer effective acoustic insulation along with fire and blast resistance, which provide crew comfort and protection.



## Carriers



The biggest container ships, LNG gas carriers and tanker ships, are equipped with Vetrotech's performance-glass solutions providing life-safety, a clear view and anti-piracy protection.



## Yachts



Vetrotech supplies quality and endless design options with customized, security and fire-resistant glass solutions, as well as effective privacy options to meet the expectations of discerning yacht owners.



## Speciality Vessels



Ice-breakers, research- and supply vessels as well as fire-fighter ships use Vetrotech glass solutions to provide safety, fire resistance and clear vision in all navigation conditions.

# WORLDWIDE TECHNICAL SUPPORT

With nearly 40 years of experience in the development, manufacture and testing of fire-resistant and high-security glass we provide expert techno-commercial support to our customers and system partners. You can trust us to understand your needs, challenges and business requirements. We support you in your ambitious projects, provide reliable services for your daily business and, together with you, think outside the box to solve complex applications or develop new solutions. Partnering with us means being on the safe side – always!

## Vetrotech Key Facts

**500**

annual tests  
(fire & security)

**30**

technical specialists  
in 10 countries

Certificates in

**+60**

countries

Nearly

**4000**

test certificates  
worldwide

“Continuous improvement and rigorous testing of our products are our secret ingredients we pass on to our customers.”

**Peter Fischer**  
Director Testing & Certification



Our own ISO 834-1 accredited fire-testing laboratory  
Herzogenrath, Germany



Our own ballistic testing laboratory  
Porz, Germany



# INNOVATIONS & DEVELOPMENT

We believe that true innovation comes when we exchange our know-how and experiences. By leveraging the Saint-Gobain Group's global network of R&D centers at the same time, we continually introduce innovations, breakthroughs and technological improvements. This we do in order to offer the highest quality, durability and industrial excellence at all times. Pioneering entrepreneurship, scientific curiosity and the passion for our mission – to protect life and property while preserving our environment – is what drives us to extend and continually improve our innovative product range for our customers.

## Vetrotech Key Facts

**35**  
patents filed  
(fire & security)

Over  
**15**  
new products  
launched in 2017

“At Vetrotech we aim to leverage the entire strength of Saint-Gobain R&D to create new and better solutions for our customers.”

**Jerome Korus**  
Innovations Manager



## Innovation at Saint-Gobain

**1 out of 4**  
products did not exist  
5 years ago

Nearly  
**350**  
patents filed  
every year

Nearly  
**3700**  
R&D  
employees

**8**  
research centers  
worldwide



Institute of Technology  
Chicago, USA



# BE PART OF THE VETROTECH EXPERIENCE



## Choice

Being part of Saint-Gobain results in being able to offer a very extensive range of glazing solutions, which can provide protection against various types of threats and are combinable with a wide range of multifunctionalities for applications on land and at open sea.



## Customization

Vetrotech's glazing solutions are able to meet multiple safety, comfort, design and sustainability requirements. Our protection range can, therefore, be customized according to the specific needs of your projects' architectural vision. You name it, we make it!



## Collaboration

Whatever the project and its challenges, our technical and sales teams always listen to you in order to offer the solution best suited to your project. We believe that a close collaboration with you is the best way to understand your needs and find the right solution.



## Expertise

The bespoke nature of our solutions requires our teams to constantly check and certify our glazing solutions. All of them are rigorously tested and conform to the standards and requirements imposed by various certification authorities like EN, UL, etc.



## Reliability

Vetrotech is a subsidiary of the Saint-Gobain Group, an expert in glazed solutions and many other building materials for over 350 years. This knowledge and expertise we kindly pass on to our customers to enable them to achieve their ambitious projects worldwide.

# THANK YOU FOR YOUR TRUST

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**Kirk Ratzel**  
Marketing & Sales

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**Nicolas Duhem**  
Finance

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**Guillaume Le Gavrian**  
General Director

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**Tina Bürgi**  
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