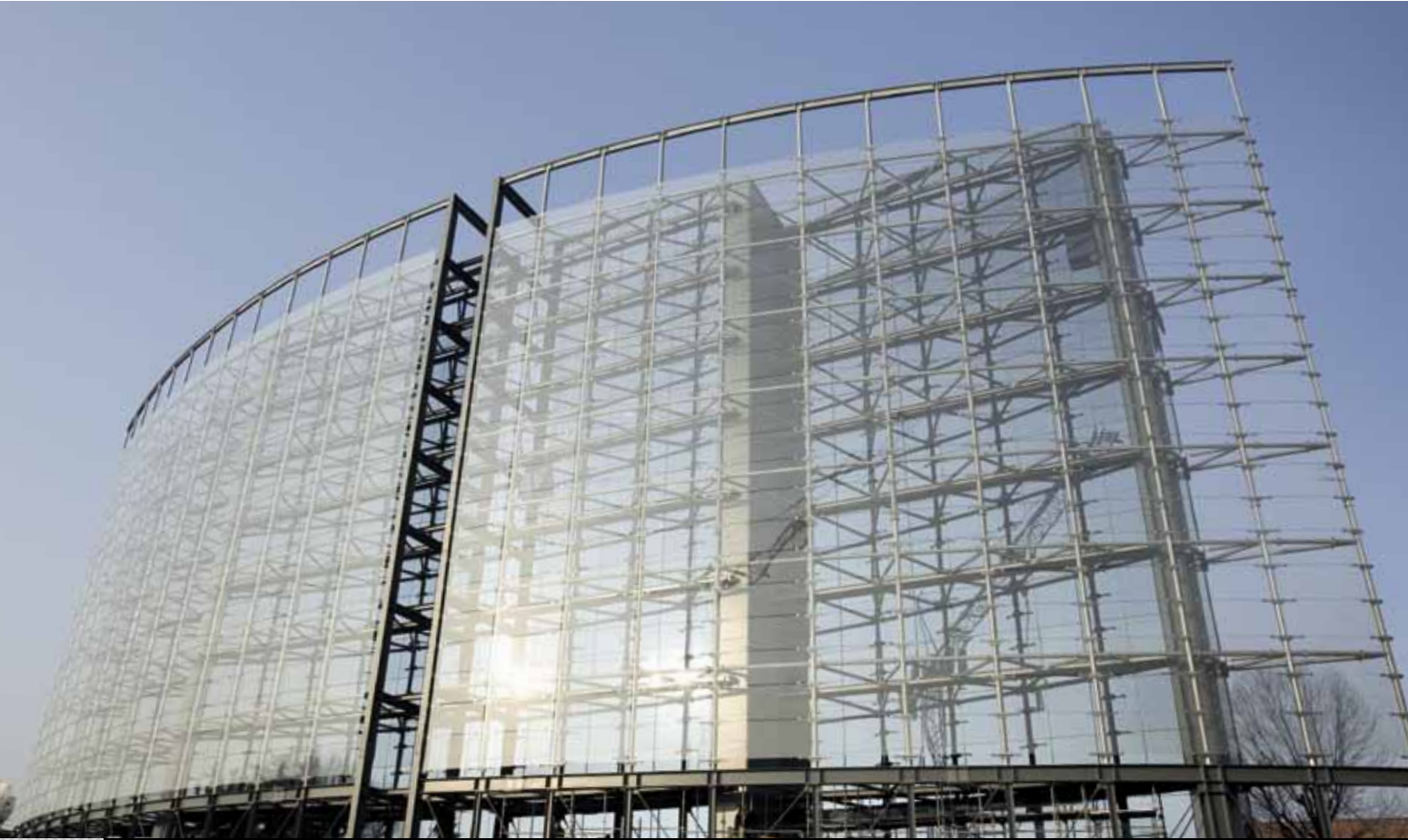


**sapa:**

Architectural Aluminium Solutions



Offices & Business Parks

**Sapa Building System**



Over the years Sapa Building System has consistently applied its knowledge of architectural aluminium systems to create safe, comfortable and stimulating office environments. These are essential for nurturing productivity, excellence and personal well-being and thus instrumental to the achievement of corporate objectives.

All over the world, project developers follow the trend of grouping together offices, research facilities, logistics buildings, public service centres and even dwellings into new business parks. The objective is to provide better and safer environments to surrounding local communities as well as to commuters who spend a considerable part of their day in surroundings they can neither choose or influence.

A calm and structured working environment is a key factor in stimulating employee creativity and productivity. Sapa Building System has the products par excellence to bring natural light into your office spaces, to reduce disruptive noise levels and to create the right temperature, making your office a pleasant place to work, in summer or winter.

For the construction of modern office buildings, Sapa Building System is committed to working closely with key specifiers including architects, developers, main contractors, fabricators and specialist installers. Our Research & Development, Sales & Marketing and Supply Chain teams set the standard for delivering added value architectural aluminium solutions.

For the future, Sapa Building System's core values of loyalty, quality and innovation together with our entrepreneurial approach will drive our processes towards continuous improvement for specifiers and our customers across all of the markets we serve.

I am convinced that this approach to working closely with our customers is the key to long term, mutually profitable growth.



**Hans Johansson**  
President Sapa Building System

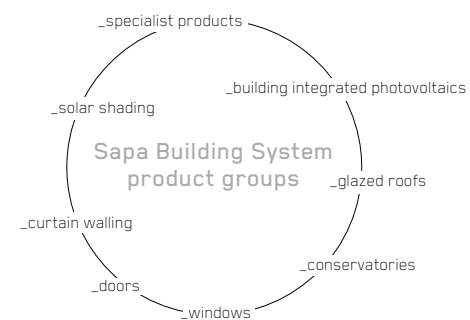
**sapa:**



1,000,000 Businesses, 1 Solution



People who spend a considerable portion of their lives in offices have every right to expect their workplace to be conveniently equipped, comfortable and safe.



#### Comfort

The control of noise, temperature and natural light are important prerequisites for a comfortable office space. To ensure that all of our aluminium profile solutions exclude unwelcome noise, Sapa Building System puts them through a severe acoustic performance test before launch. Special solutions can be worked out depending on project specifics such as proximity to roads, airports and specific types of noise nuisance.

#### Façade (or curtain wall) Systems

The Elegance curtain wall system offers a wide variety of architectural solutions combining technology and design with the demand of contemporary building construction.

SBS provides two curtain wall concepts:

- » Elegance 52, a common CW substructure allowing slim sightline and a large range of glazing solutions for small to medium size projects.
- » Elegance 72, a unitised curtain walling system that brings together benefit of factory production control and speed of installation on site; system dedicated to larger projects.

#### Design, colours and shapes

Aluminium profiles and accessories are available in a vast range of colours and shades including polyester powder coating in gloss or matt finish. Alternatively, anodizing provides a subtle sheen of colour to aluminium's natural patina. Corporate colours and shades can usually be accommodated.

#### Easy to use

User-friendly operation and durability are the key qualities requested when designing an office building. Sapa Building System's product ranges are designed to cope with intense usage and are cycle tested to prove their inherent strength and durability.

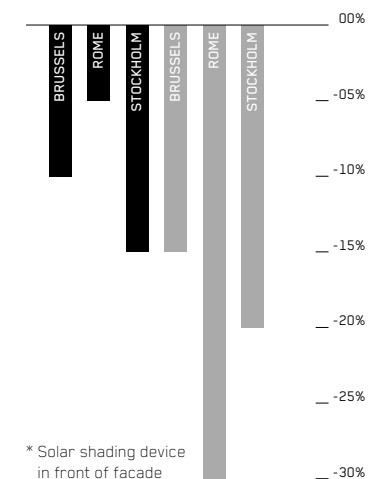
Sapa Building System product ranges provide design solutions in new build and refurbishment for a vast range of offices and business parks.



100,000 Meetings, 1 Solution

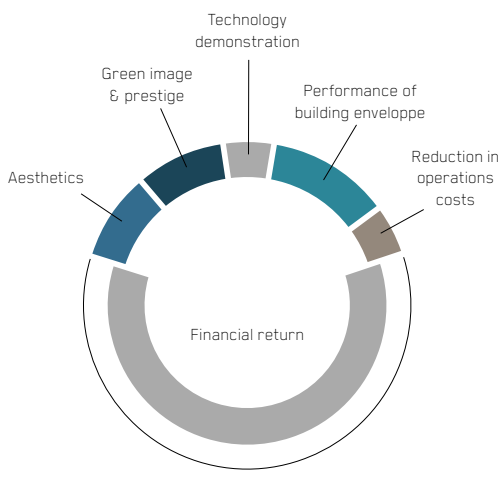
Sapa Building System offers thermal insulation and shading solutions which keep offices cool in summer minimising the need for air conditioning, whilst enabling energy savings in winter by reducing the need for heating.

**Solar shading potential\***



■ Feasible heating demand reduction  
 ■ Feasible cooling demand reduction with the use of appropriate solar shading.

**Building Integrated Photovoltaics**



Next to the financial return, Building Integrated Photovoltaics bring a lot of additional values to the building envelope.

**Sustainable development and energy savings**

Sapa Building System's product range includes solutions for both passive and active carbon emission reduction. Elegance SC (Solar Control) combines a reduced transmission of radiation with a lower solar gain inside the building, reducing cooling needs and resulting in a more carbon efficient building. Double skin façades can also contribute significantly to this goal by providing natural ventilation.

Sapa and its partners have developed glass panels with integrated photovoltaic cells (BIPV) which can be integrated to the façade and connected to the electricity grid. It is a durable, sustainable and cost-efficient energy option, and offers the opportunity to introduce aesthetic variations to the façade.

**Safety**

Personal safety may require the restriction and monitoring of access to the office premises. Sapa Building System offers an Access Monitoring System that allows for example, access permission with the use of a card, a fingerprint or both. Emergency exits are fitted with panic bars. Windows are fitted with safety hardware to guard against accidental falls and impact with open or moving panes.

**Security**

The disruption and cost associated with poor security is a major issue for building operators and users. Sapa Building System's windows and doors offer the first line of defence. We appreciate that different areas of each site will need differing levels of protection. Our fully suited systems offer complete flexibility so that you can build in the levels of security that you need without compromise nor costly over-specification.

Sapa Building System offers a full range of solutions from fire, through anti-burglary to blast resistance.

24 Countries, 1 Solution



When it comes to engineering support and planning, the experience of Sapa Building System and its partners is a guarantee for a timely execution of your office building project.

#### **One stop shop**

Sapa Building System's teams' expertise provides complete project support from initial design to installation on site. Fabrication and installation are handled by our network of specialist contractors, covering every geographic area.

01. Concept Consultation
02. Concept Design
03. Project Costing
04. Thermal, PV Calculations
05. Wind Loading Calculations
06. Engineering System design
07. Supply
08. Installation

#### **Efficiency**

Professional advice is always available from Sapa Building System's sales and project teams who provide the link between our fabricating customers and architects, contractors and specialist installers.

#### **Site assistance**

Field based Project Consultants work closely with our in-house Project Support Team to provide specifiers with specialist advice concerning the correct application of our products for their projects, giving guidance on Building Regulations and other issues such as product specifications, usage, maintenance and safety.

#### **Fabricator network**

Present in more than 24 countries, Sapa Building System's fabricator network provides advice and assistance for specifiers right through the supply chain. We work closely with our authorised fabricators and installers to ensure that they have the latest product details to hand and they have the correct systems and procedures in place to handle all sizes of installations. It literally is true that our customer base can cope with anything from a small scale refurbishment to a high profile, high cost new build development.

**Cross-border cooperation coupled to our determination to succeed means you are always supported by Sapa Building System's support network. Advice, assistance and problem solving are never far away no matter where your project is.**



A modern conference room with a long, light-colored table. Several black chairs are arranged around the table. On the table, there are several sets of papers and pens. In the center of the table, there is a glass bottle of water and two glasses. The room has large windows with horizontal blinds, and the view outside shows a modern building. A black horizontal bar is overlaid on the image, containing the word "references" in white text.

references



**Les Rives de l'Ourcq  
Paris Nord Est, France**

This building is part of a European urban planning project that centres around the Stade de France. The specialist contractor who was to supply the façade of the building made a request to Sapa Building System for expert advice concerning the façade framework and the development of a die for the extrusion of aluminium sections.

A powerful element in Pantin's identity, the Ourcq Canal is one of the main axes for the reinvention of the town. The reconquering of its banks, long devoted to industrial activity, is already underway.

Sapa Building System offered the benefit of all its expertise in order to ensure that the range of products specifically developed for this project, perfectly suit the dynamic and expressive design intentions for this development and fully meet all acoustic, thermal, functional and safety performance standards. The slenderness of the sections offer maximised use of natural daylight and reduced bulk to the building while investing it with a highly contemporary air.

**Systems provided:**

Curtain walling

Solar shading

Casement windows



**Project:** Les Rives de l'Ourcq  
**Architect:** Cabinet Benoît  
**City:** Paris Nord Est - France



## Asian Games

### Doha , Qatar

After the successful completion of the Athletes' Village in Qatar, using Sapa Building System's Comfort 50 systems and Elegance 52 façades, the architects decided to work with Sapa again for the creation and construction of the administrative offices of the Asian Games.

Particularly suited to complex architectural design, Sapa's Elegance 52 SG Eco systems have enabled the creation of the graphic structural glazing façades, with the incorporation of outward opening windows and sunshades on every floor level.

The architectural concept of an angled façade with off-centre levels and variable dimensions between floors was easily created courtesy of the tremendous possibilities for choice presented by Sapa Building System's profiles and accessories, which are tailored to meet the design and functionality required by the architect.

#### **Systems provided:**

Curtain walling

Sunshading



**Project:** Asian Games Administration Building  
**Architect:** Hills  
**City:** Doha - Qatar

**Fabricator/Installer:** Alu-Tec



**Hyundai**  
**Nošovice, Czech Republic**

For the new administrative building on the production site of South Korean car manufacturer Hyundai in the Czech Nošovice village, the architect designed a stylishly restrained curtain wall. To obtain an even polished surface, special cover caps had to be designed and produced to conceal any visible screw heads. Through the realisation of this prestigious project Sapa Building System proved its ability to meet special aesthetic demands within the allotted time and without compromising technical performance.



**Systems provided:**

Curtain walling

Casement windows

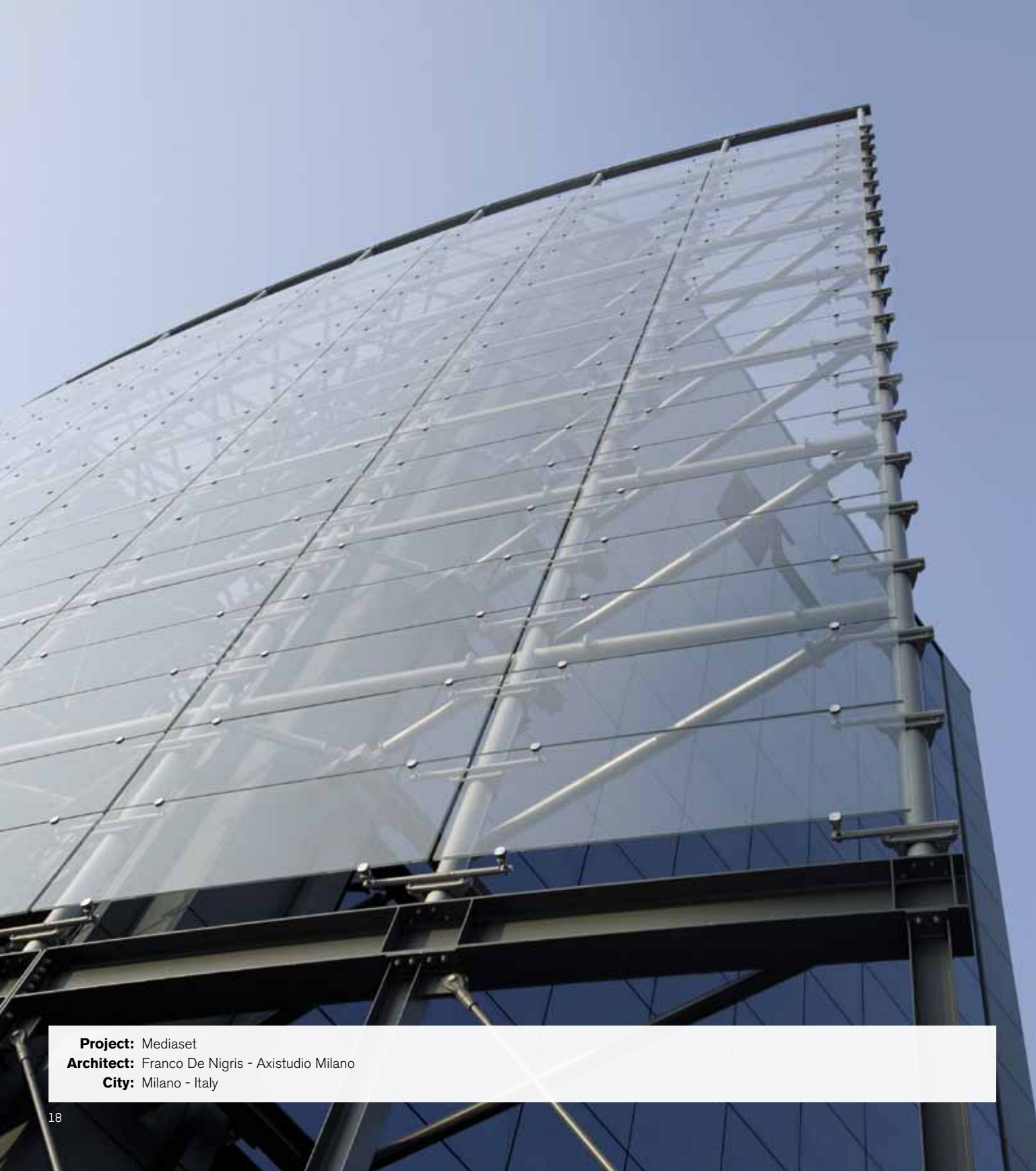
Doors



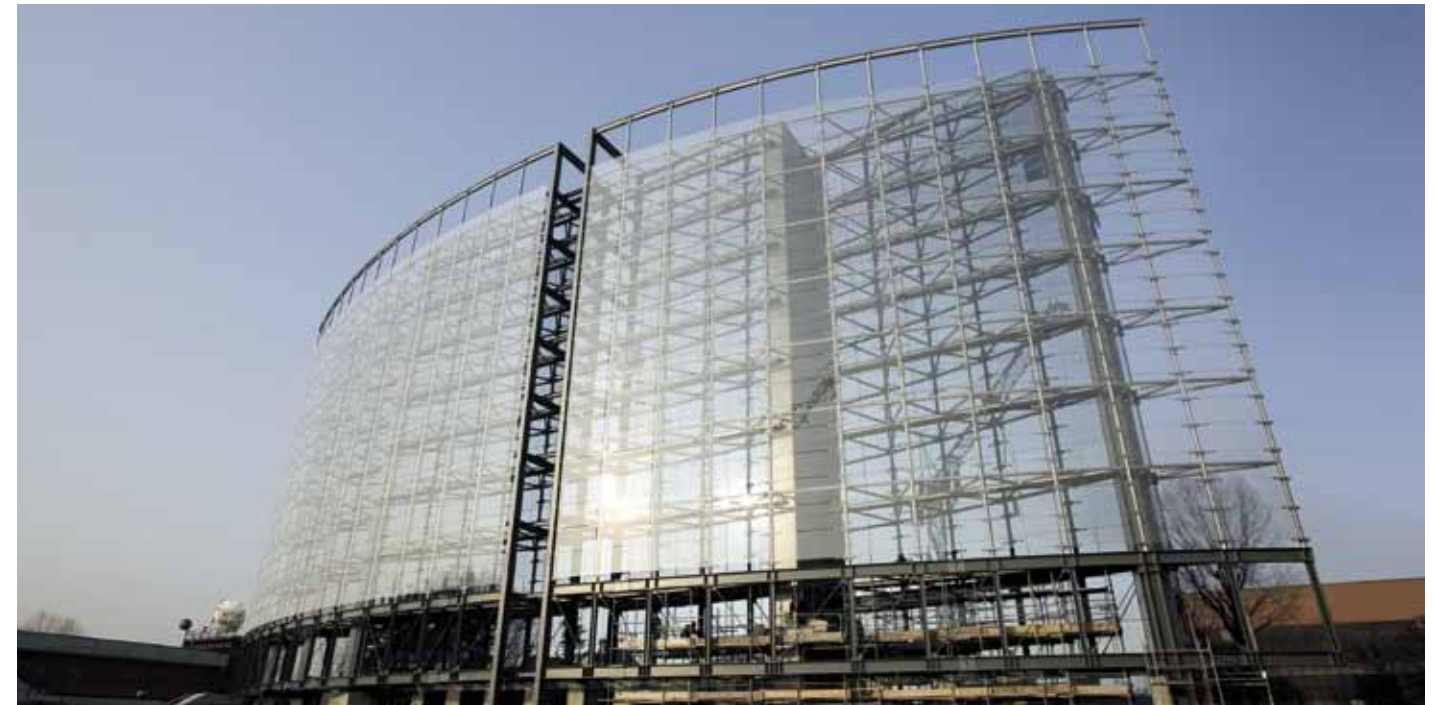
**Project:** Hyundai  
**City:** Nošovice - Czech Republic

**Fabricator/Installer:** Alfest Lučina s.r.o.





**Project:** Mediaset  
**Architect:** Franco De Nigris - Axi studio Milano  
**City:** Milano - Italy



"The addition of a glass skin to the historic Mediaset building emphasises the elegant curves of the original construction and lends it an overall contemporary feel."

### **A big sail made of glass**

Milan based Mediaset, Italy's foremost private media company, has recently carried out an important facelift to its headquarters, setting a new example of architectural innovation and becoming a communication emblem. The dominant element of the design is its impressive ventilated façade with a 1500-square-meter 'double skin' in laminated safety glass panels covering and protecting the Mediaset building. This double skin construction, designed by architect Franco De Nigris of Axi studio Milano, follows the curves of the historic building, creating the appearance of a huge sail made of glass.

The E52 SG system of the Ekonal range produced by Sapa Building System in Bolzano was chosen for creating the glass cladding of the actual façade, that is to say the inner skin of the building. The system's load-bearing structure consists of uprights and cross-members. The basic structural lattice features



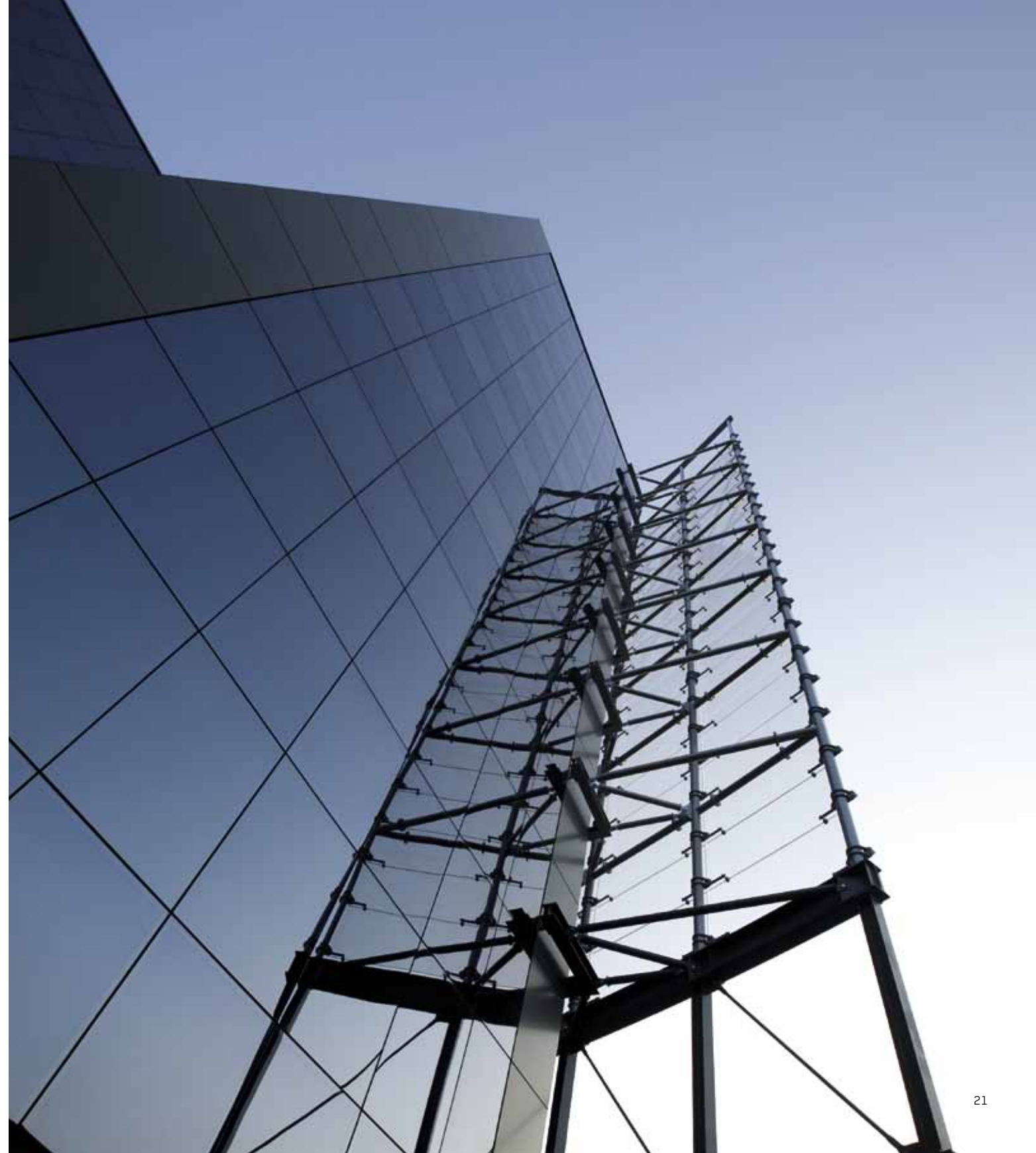


the use of polytubular extruded aluminium sections for the static uprights and tubular sections for the cross-members. The tried and tested E52 SG system is made up of a configuration consisting basically of 'microcells' put together starting from the joint between an upright and a cross-member installed one over the other, so as to enable correct transfer of the loads from the latter to the former. The structural steel elements are secured together by means of special EPDM collars forming the components placed between the surfaces.

The glazing was subsequently mounted on the structure as if the panels were single prefabricated and completely independent cells, secured by means of two-component silicone tested for structural bonding and applied to a supporting aluminium section subjected to special anodic oxidation treatment.

**Systems provided:**

- \_\_\_\_\_
- Curtain walling
- \_\_\_\_\_
- Casement windows
- \_\_\_\_\_
- Doors
- \_\_\_\_\_





## Tissot Headquarters

### Le Locle, Switzerland

Founded in 1853 at Le Locle, the birthplace of Swiss watchmaking, Tissot has established itself as a unique and very successful brand renowned for the quality and innovative nature of its products. For over 150 years Tissot has managed to combine incomparable style and elegance with cutting edge technology in watchmaking.

Throughout the company's history the headquarter buildings in Le Locle, Switzerland, have undergone many changes, the latest being the installation of a curtain wall by Sapa Building System and its partner Progin SA Metal.

To underline the company's reputation as a technological innovator the architect decided to use a special triple glazed version of Sapa's Elegance 52 ECO system. He designed a structurally clamped aluminium curtain walling in which the glass is retained without the use of pressure plates or cover caps. This solution is a particularly attractive alternative for the traditional structural glazed systems as it creates a smooth surface aspect.

In line with Tissot's focus on quality and innovation the new building has been equipped with an advanced building management system (BMS) that controls and operates the automated windows in the façade in accordance with the HVAC requirements.

### Systems provided:

Curtain walling



**Project:** Tissot Headquarters  
**City:** Le Locle - Switzerland

**Fabricator/Installer:** Progin SA Metal





**Project:** Scientific Park  
**Architect:** Poponcini & Lootens Ir. Architecten  
**City:** Leuven - Belgium

**Scientific Park  
 Leuven, Belgium**

This 13 hectares Science Park is located between a valuable green area, used for drinking water extraction, and a busy road connecting Brussels and Leuven. In 2000 the University of Leuven launched a competition for the development and urbanisation of the site, which links up with its Sciences Campus. Poponcini & Lootens, architects, came with the idea of developing a cluster of buildings in a predominantly green setting traversed by foot and bicycle paths. Each sub-cluster would consist of a number of different buildings centred around a yard. Works started in 2004 on the first sub-cluster which was destined for the biochemistry and ICT labs.

The architects specified large turn and tilt windows with aluminium frames. Aluminium being the most suitable material due to its combination of lighter weight, reliability, strength, maintenance-friendliness and durability. Sapa Building System's Elegance 52 façade system and Elegance 65 and 75 pivoting window systems proved to be the best solutions for this particular project.

Right from the preliminary design stage Sapa Building System's project team supplied technical support. Because of the unusual size of the windows (1.10 metres wide and 3 metres high) it proved necessary to produce a number of samples for testing. After 10,000 cycles of opening and closing had been carried out with good result the windows were successfully subjected to 15,000 more testing cycles to comply with the German RAL standards.

**Systems provided:**

Curtain walling

Sliding windows





**Project:** Delta Liberec  
**City:** Liberec - Czech Republic

**Fabricator/Installer:** Profil Technik s.r.o

**Delta**  
**Liberec, Czech Republic**

Liberec is a historic town little more than an hour's drive to the north east of Prague. The strikingly designed Delta building comprises fully equipped offices and a shopping mall.

The most salient feature of the building is the elegantly curved and rounded structural glazing of the upper floors. On all three floors the window glass panels are mounted in curved profiles specially designed, manufactured and supplied by Sapa Building System. This project illustrates the great extent to which Sapa Building System's thermal break aluminium profiles can be adapted to meet the requirements of innovative architectural designs.

**Systems provided:**

Curtain walling

Sliding windows

Doors



## Solaris passive offices

### Brussels, Belgium

The eight-storied Solaris office building, situated in Brussels along the Avenue Louise, comprises 13,700 square metres of offices and 196 underground parking spaces. It was erected using High Quality Environmental materials which greatly contribute to its outstanding thermal performance. Thanks to its photovoltaic integrated façade, its geothermal heating system and its high energy efficiency by design, the Solaris Project rightly won the Eco-Building Award 2009.

Sapa's Elegance 52 system proved to be the best solution to create the building's subtly faceted façade. In addition, the system's excellent thermal insulation qualities made it the obvious choice for the construction of a passive building. Since the design required large window panes with integrated photovoltaic cells, the architects decided on the use of Sapa's Excellence 65 aluminium system.

Sapa Building System is proud to have contributed to the realisation of this unique building that will consume a remarkable 50% less energy than an equivalent office block built following a traditional design and construction process.

### Systems provided:

Curtain walling

Building integrated photovoltaics



**Project:** Solaris passive offices  
**Architect:** Assard  
**City:** Brussels - Belgium

**Fabricator/Installer:** Francovera in association with Designmetal



## Consorzio torri di Vimodrone

### Milano, Italy

The Consorzio torri di Vimodrone was designed by the famous architect Mario Botta. The building comprises nine floor levels above ground and a cylindrical technical space above.

All stories are based on a polygonal floor plan. The continuous façade, which is entirely based on Sapa Building System products, has sunshades on every floor level. For the radial parts of the building the architect specified Sapa's EKONAL FV70i façade system with bottom-hinged openings that are hidden from the outside. For the central part of the foyer his choice was Sapa's EKONAL E52ST with inserted projecting openings of a structural type, also concealed from view from the outside.

For aesthetic reasons special external pressure plates were produced to match the overall design of the building. The technical characteristics of the systems that Sapa supplied guarantee the best possible thermal and acoustic performance. They are also air- and watertight.

### Systems provided:

Curtain walling

Casement windows



A large part of the Sapa Building System façade is occupied by a continuous façade in front of which sun screens are mounted.



**Project:** Consorzio torri di Vimodrone  
**Architect:** Mario Botta architetto  
**City:** Milano - Italy





**Quinta da Avenida  
Oporto, Portugal**

Located in one of Oporto's most luxurious areas, the Quinta da Avenida building is based on a contemporary design concept which cleverly and subtly unites commercial, residential and cultural activities in the same lavish surroundings.

The stylish building was designed by Eduardo Souto de Moura, one of Portugal's most celebrated architects. It comprises offices as well as shops which now accommodate many up-market fashion outlets, real estate investment companies, car show rooms and even a space travel broker.

For the offices Souto de Moura designed a special window and door system based on the Sapa Building System slimslide windows. With its full height tempered double glazed doors the new system enhances and defines the clean minimalist look and feel of the building. Due to the type and thickness of the glazing, the windows and doors provide excellent acoustic and thermal insulation and increased protection against glass breakage making balustrades superfluous.

**Systems provided:**

Slimslide windows

Slimslide doors



**Project:** Quinta da Avenida  
**Architect:** Souto de Moura  
**City:** Oporto - Portugal



## Al Handasa Complex

### Doha, Qatar

The use of Sapa Building System's Elegance 52 Structural Glazing Eco system greatly helped to achieve a distinctive architectural concept based on horizontal bands of glazing interspersed with wave-shaped sunshades creating unexpected details in relief.

Sapa's curtain walling system conceals all flooring and vertical bearing structures, thus making the overall design look lighter. Large outward-opening windows provide convenient ventilation whilst, in the closed position, they are fully integrated in the façade's structural glazing design.

This exposed façade on a busy thoroughfare called for a design and choice of systems permitting enhanced acoustic insulation in the interest of the comfort of all the building's users.

#### Systems provided:

Curtain walling



**Project:** Al Handasa Complex  
**Architect:** GHD  
**City:** Doha - Qatar

**Fabricator/Installer:** Gulf Ray (AGR)





**Project:** Bang & Olufsen HQ  
**City:** Koprivnice - Czech Republic

**Fabricator/Installer:** Aligno s.r.o.



**Bang & Olufsen HQ**  
**Koprivnice, Czech Republic**

The newly erected Bang & Olufsen building in Koprivnice houses the company's first branch outside Denmark. It comprises B&O's Czech headquarters as well as its local administrative and production departments.

Products from this renowned manufacturer of hi-tech quality consumer electronics really stand out because of their innovative technology and refined design. Everything about the brand needs to reflect the company's quest for perfection.

When B&O's architects selected Sapa Building System as their exclusive supplier of window and door systems for the new building, they made it immediately clear they were looking for products that would meet the highest achievable performance standards in terms of quality and design. Sapa Building System is proud to say that we fully lived up to the expectations.

**Systems provided:**

Curtain walling

Casement windows

Doors



**National Telecom Headquarters of Sudan  
Khartoum, Sudan**

In May 2007, work began on the construction of a prestigious 29-storey office tower for the National Telecom Corporation of Sudan. The building is part of a 27,000 m<sup>2</sup> development in Khartoum, the capital city of Sudan, allocated for the new National Telecom Corporation's business centre. Works were completed and delivered on schedule, in 2009.

Sapa supplied aluminium systems for the Building Integrated Photovoltaics (BIPV) that were in the office tower. In total, over 1,400 photovoltaics and 2,000 m<sup>2</sup> of Sapa Building System's BIPV were used to create the aesthetically impressive façade. The NTC tower now boasts the world's second largest thin film BIPV application in the world, producing 104.67 kWp per year.

Due to the high temperatures in Sudan aSi (amorphous Silicone) thin film cells were used instead of the classic poly- or monocrystalline photovoltaic technology. Poly- and monocrystalline cells usually perform best, however they lose more efficiency in high temperatures than thin film cells thus making thin film cells the obvious choice for this particular building.

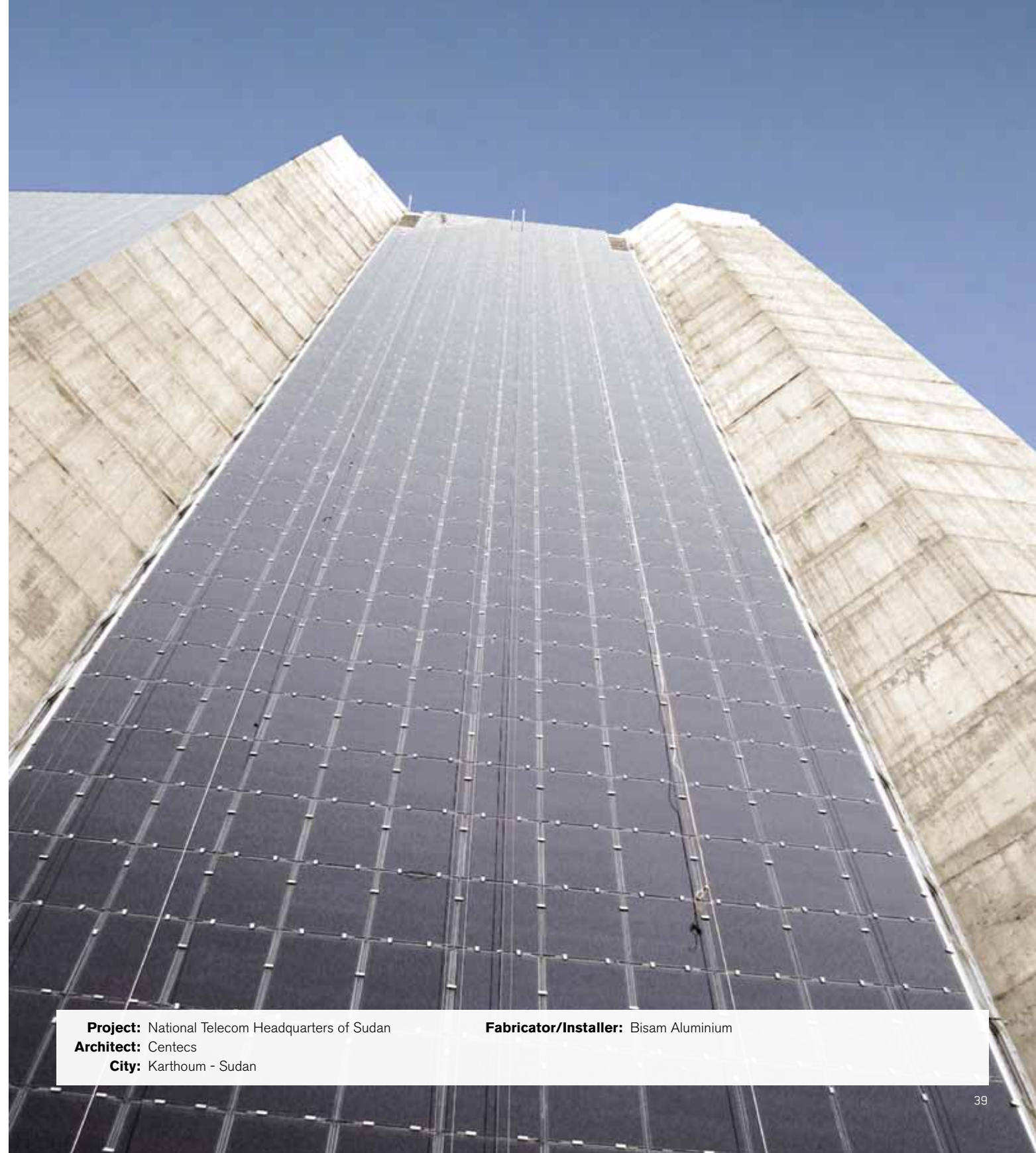
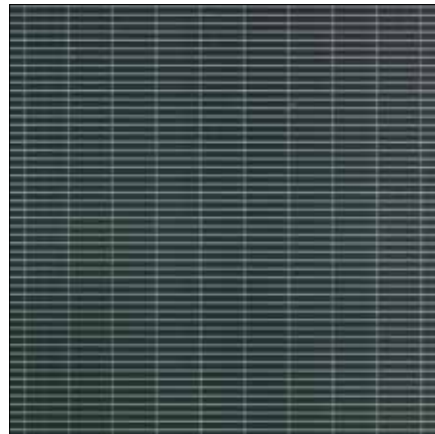
The snail's shell-shaped restaurant, located on the ground floor of the tower building, is fitted with a custom design Sapa skylight system. Low-e glass inside the 14 metres high roof ensures the thermal comfort is in keeping with customers' expectations.

**Systems provided:**

aSi standard panels		
Opaque	600 panels	83.8 Wp
See-through	600 panels	81.0 Wp

aSi corner panels		
Opaque	100 panels	30.0 Wp
See-through	100 panels	27.9 Wp

Total installed capacity	104.67 kWp	
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**Project:** National Telecom Headquarters of Sudan      **Fabricator/Installer:** Bisam Aluminium  
**Architect:** Centecs  
**City:** Karthoum - Sudan





**Project:** Sungard  
**Architect:** Dekonink & Kuhn Architects  
**City:** Lognes - France



### Creating a new look for an international nerve centre

At Lognes (Seine-et-Marne, France), the architects Patrice Dekonink and Emmanuel Kuhn have exploited the high-security constraints of a "sensitive" site by installing architecture that combines opaque confidential areas with bright and airy office space.

Crammed with computer server rooms and home to an array of networks, this is Sungard's largest French centre. This "availability services supplier" needs to guarantee that over 10,000 major accounts in the United States and Europe have uninterrupted access to their most critical software applications. Located at Lognes (Seine-et-Marne), this "campus" originally consisted of a pair of buildings constructed in the 1990s. A third has now been added in order to cope with the project management firm's growth in activities, to have a scalable solution capable of meeting client companies' requirements, to boost the security of the facilities and to enhance the staff's working environment. "Although the purpose of the premises is the processing of ultra-confidential data, it is still a living space within which the staff of both client companies and Sungard work", explain the architects Patrice Dekonink and Emmanuel Kuhn.



### Combining three buildings

The initial observation was that the similarity in appearance of the two original buildings was disorientating. Secondly, the access control was inefficient, with users continually crisscrossing the site to get from one building to the next. Lastly, the old premises were dark and impersonal, with opaque rooms, blind passageways and limited relaxation areas at the intersection of soulless passageways ... The architects' first idea was to make access to the site clearer. Wedged between the existing buildings, the new structure consists of two side-by-side spaces: the opalescent glass box of the offices and testing rooms, installed on one technical level, and the blind box of the computer hardware rooms. Between the two, a black-tinted concrete veil marks the centre of the building. On its periphery, the security centre with an overview of the entrance and the main square controls access to all three buildings.

Inside, the aim was to create maximum flexibility and access to the computer testing rooms, served by an internal thoroughfare and several entrances from the passageways. On the first floor, at the intersection of the structures, the relaxation area has become a meeting place for the buildings' users. Outside, the treatment of the façades illustrates the



programme: the office space is open, covered by translucent glass. The glazed frames form one large window within this cream-coloured box, enlivened by protective blinds. Opposite, the technical and logistical spaces and the most confidential computer rooms are screened off by connected metal openwork panels.

Spread along the internal passageways, the high-voltage boxes avoid the need for maintenance work within the areas reserved for the client companies. The supply networks (high voltage and air treatment) use these passageways' plenum space without crossing the computer hardware rooms. The service areas and reserves are located together on the ground floor's periphery. Lastly, the electrical supply is provided via a 20,000-volt EDF network loop and four uninterruptible power supplies. This is supplemented by two electricity generators, plus a 3rd emergency generator, all fed by a 40m<sup>3</sup> fuel tank. The system is completed by a pair of lightning conductors, a mechanical smoke extractor in each room and an integral sprinkler system.

#### Systems provided:

- Curtain walling
- Sliding & casement windows



"Opalescent glass boxes for offices and testing rooms, translucent glass curtain façades and everything geared to making the working environment more attractive, more comfortable and more secure. It is quite obvious that Sapa Building System had a major hand in this project."





**Project:** Teleflex Medical  
**Architect:** Atelier Penta v.o.s.  
**City:** Žďár nad Sázavou - Czech Republic

**Fabricator/Installer:** PKS Mont a.s.



**Teleflex Medical**  
**Žďár nad Sázavou, Czech Republic**

The Teleflex Medical industrial facility in Žďár nad Sázavou manufactures and packages a wide range of sanitary products such as catheters and accessory devices for single use. Since the company required the new building to have ultra clear working spaces, Sapa proposed its thermal curtain wall system, which lets in plenty of natural light without compromising thermal performance.

The building is now considered a landmark building in the region and has won several awards.

**Systems provided:**

Curtain walling

Casement windows

Doors





**Warsaw Academy**  
**Warsaw, Poland**

For a prestigious development in Warsaw the architects specified Sapa Building System's Elegance 72, which is a unitised curtain walling system that brings together the benefits of factory production control and speed of installation on site. Modular units are manufactured including glazed units in workshop conditions where quality can be strictly controlled.

In this new building 4,000 square metres of Elegance 72 now provide a spectacular atrium linking two blocks. The installation went smoothly thanks to

early involvement in the specification process by the design and installation team of Sapa Building System Poland. The fast track installation that unitised systems allow was especially useful in the harsh weather conditions in Poland. The façade was installed quickly, allowing secondary trades to begin their work earlier than would normally be possible if a stick system had been specified.

**Systems provided:**

Unitised curtain walling





## Dexia Bank Headquarters

### Brussels, Belgium

In 2003, Dexia headquarters underwent a thorough renovation. The assignment was to renovate the building while maintaining the aspect of the façades and providing a solution for these with regard to ventilation and sun blinds. The choice was made for a semi-active façade, a first in Belgium. A semi-active façade consists of a double glazing on the outside and only a sunblind on the inside, which works automatically according to the amount of sunlight coming in. The advantage of the active over the passive façade is that the active façade is better suited to a temperate climate, ensures high efficiency, and is also easier to maintain.

The renovation of this building is a fine example of the strengths of the Sapa Group's vertical integration. The close collaboration between the architectural firm, Seco (the designer) and Sapa Building System resulted in a solution in which the entire construction of the old sandwich panels was replaced by an extruded profile 350 mm wide. This one-time extrusion was possible thanks to the technical possibilities of Sapa Building Profiles' extrusion presses. Subsequently, the profiles were thermally insulated. The windows were completely pre-assembled so that they could be installed very quickly and efficiently at the work site.

Of course, the system's performance was first tested at Sapa Building System's test facility. The specific safety aspects for securing the cleaning installation were tested as well.

#### Systems provided:

Semi active façade



**Project:** Dexia Building  
**Architect:** Crépain Binst Architecture  
**City:** Brussels - Belgium

**Fabricator/Installer:** Groven+





**Project:** Adidas (UK) Ltd  
**Architect:** Fairhurst Architects  
**City:** Manchester - United Kingdom

**Fabricator/Installer:** North Cheshire Architectural Aluminium



**Adidas (UK) Ltd  
 Manchester, United Kingdom**

The initial concept was by Fairhurst Architects (Manchester) - contract awarded to Multibuild of Stockport as a Design & Build scheme.

Sapa Building System's customer, North Cheshire Architectural Aluminium, value engineered the scheme & proposed their solutions for an Elegance 52 faceted curtain wall screen, a sloped 15m x 15m Elegance 52 atrium roof on a structural steel frame with automatically opening windows, and Dualframe 75 top hung casement windows and 202 commercial entrance doors.

Greg Hayward of North Cheshire Architectural Aluminium says that "We were awarded the scheme based upon our track record of successfully completing technically demanding commercial projects, working within budget and to programme, with the added peace of mind received from using tried and tested products from Sapa Building System"

**Systems provided:**

- \_\_\_\_\_
- Curtain walling
- \_\_\_\_\_
- Sliding & casement windows
- \_\_\_\_\_
- Doors
- \_\_\_\_\_





## OCMW headquarters

### Bruges, Belgium

Just like a Mondrian painting, the surfaces of the OCMW complex were coloured white, red, yellow or blue. The colourful contrast between the OCMW and its stately neighbour, the Sint-Jan AV General Hospital, makes a statement for the OCMW as it positions itself as a modern and accessible organisation.

Three types of windows of the Sapa Building System solutions were applied: conventional windows, strip windows and curtain walls. For the windows, the Excellence 65 3-section system was selected ( $2.2 \text{ W/m}^2\text{K} \leq U_f \leq 2.7 \text{ W/m}^2\text{K}$ ). For the façades, Sapa Building System developed a tailored solution based on the Elegance 52 and Five S. This tailored solution allowed a portion of the assembly work including the bonding of the glass, to be carried out in the dust-free environment of a workshop, resulting in a number of advantages: weather-independence and a more favourable processing temperature.

The system has advantages aesthetically as well. The Elegance 52 support structure is secured at the level of the concrete slabs, so that no fixing brackets are visible.

The execution of this total concept was a real challenge, particularly because of the time pressure. But thanks to the teamwork among the various parties, this potential minefield was turned into a masterpiece!

#### Systems provided:

Curtain walling  
Sliding & casement windows  
Doors



**Project:** OCMW headquarters  
**Architect:** Archinovo  
**City:** Bruges - Belgium



## A Light Touch for Zurich in the UK

Solent Business Park is a well established, landscaped business park, strategically located along the M27 Motorway between Southampton and Portsmouth, on the south coast of England. The new headquarters office for property developers PPG Southern and Bellhammer formed part of the overall Arlington Properties owned master plan for the park and was the last of three new buildings planned for this area of the park.

The completed building provides 6,500 square metres of lettable office space in a three storey building with parking and was designed in two wings to allow maximum flexibility to attract either a single tenant or allow for multiple tenancies with floor by floor or wing by wing letting. The architectural idea uses the expressed roof to bind the elements of the building together, producing a series of defined and related pavilions. The interiors are finished to a standard expected in a high-profile office of this nature and the exteriors of masonry, render and glass maximise natural light into the office floor plates.

The architect wanted ribbons of clear glazing in white textured render featuring bold horizontal caps to give a strong horizontal emphasis to the façades and as a result selected Sapa Building System's Elegance 52 SX curtain walling throughout both wings. Additionally a fully glazed Elegance 52 ST capped curtain walling system to the main approach and the rear courtyard was used to bring light into the interior and create a dramatic entrance giving a total area of glazing in excess of 1000m<sup>2</sup>.

The Elegance 52 SX structurally clamped curtain walling retains the glass with a concealed pressure plate, removing the need for externally visible capping profiles. As a feature, Sapa then applied an



**Project:** Zurich Insurance Offices, Solent Business Park  
**Architect:** ESA, London  
**City:** Fareham, Hampshire - United Kingdom

**Fabricator/Installer:** Geoffrey Osbourne Ltd, Chichester





externally prominent 150mm horizontal aerofoil cap to both types of curtain wall; this accentuates the horizontal linear design. Another particular feature is the number of frameless corners within the bands of glazing, avoiding heavy sightlines with corner posts. The building was finished in the summer of 2007 and was sold, on completion, to an international insurance company for their own occupation.

**Systems provided:**

Curtain walling

Sliding windows

Doors







**Mjärdevi Service Center**  
**Linköping, Sweden**

The concept was to make the Mjärdevi Service Center a connecting symbol for the entire area as it signals faith in the future with its bold form.

The building consists of two parts: an upper part, which expands with its 12-storey tall inclined façades that separate into two semicircles; and a lower part, whose shape resembles a landscape element more than a building and serves as the foundation for the upper part. The two parts together leave a footprint on the surface that can be compared to a Japanese calligraphic sign.

With all the services necessary to a place of work, the Service Centre functions as a pleasant meeting place. It is a convenient oasis for hurrying businesspeople and their employees. For this reason, the two parts of the building form two adjacent, intimate outdoor spaces: an entrance square, which opens towards the morning sun at the intersection of Teknikringen and Dataringen Streets; and a garden area, facing the afternoon sun in a sheltered location. Between these two spaces is the entrance hall, which together with the north entrance from the parking lot forms a hub in the building. Through the entrance hall's glazed roof, one can see the upper parts of the building rising towards the sky.

The dark zinc sheet in the inclined gable façades forms an outer frame for the otherwise transparent building. The almost pitch-black colour of the zinc contrasts with the light eggshell-coloured glass - creating with graphic clarity a sharp silhouette in the flat surrounding landscape.

**Systems provided:**

Curtain walling

Sliding windows

Doors

**Project:** Mjärdevi Service Center  
**Architect:** Lund & Valentin - Göteborg  
**City:** Linköping - Sweden

**Fabricator/Installer:** GlasLindberg Fasad AB



**Ares Tower**  
**Vienna, Austria**

The Ares Tower is a striking addition to the urban centre known as the 'Donauplatte' or 'Danube Platform', which is located on the far side of the Danube, across from Vienna's historic center. The new office tower was built to the highest technological standards. It is around 100 metres high and comprises 26 floors.

The double-shell construction is a unit-based design. The individual units were assembled by construction workers to include all outer panes, sun protection, glazing, panels and supports and then transported to the construction site where they were linked up on site.

To achieve optimum thermal isolation, all window profiles have been derived from Sapa Building System's EX75 plus standard design. Average K value of the profile combination is 1.75 to 1.95 W/m<sup>2</sup>K.

**Systems provided:**

- Curtain walling
- Sliding & casement windows
- Doors



**Project:** Ares Tower  
**Architect:** Neumann + Partner - Architekten Ingenieure  
**City:** Vienna - Austria





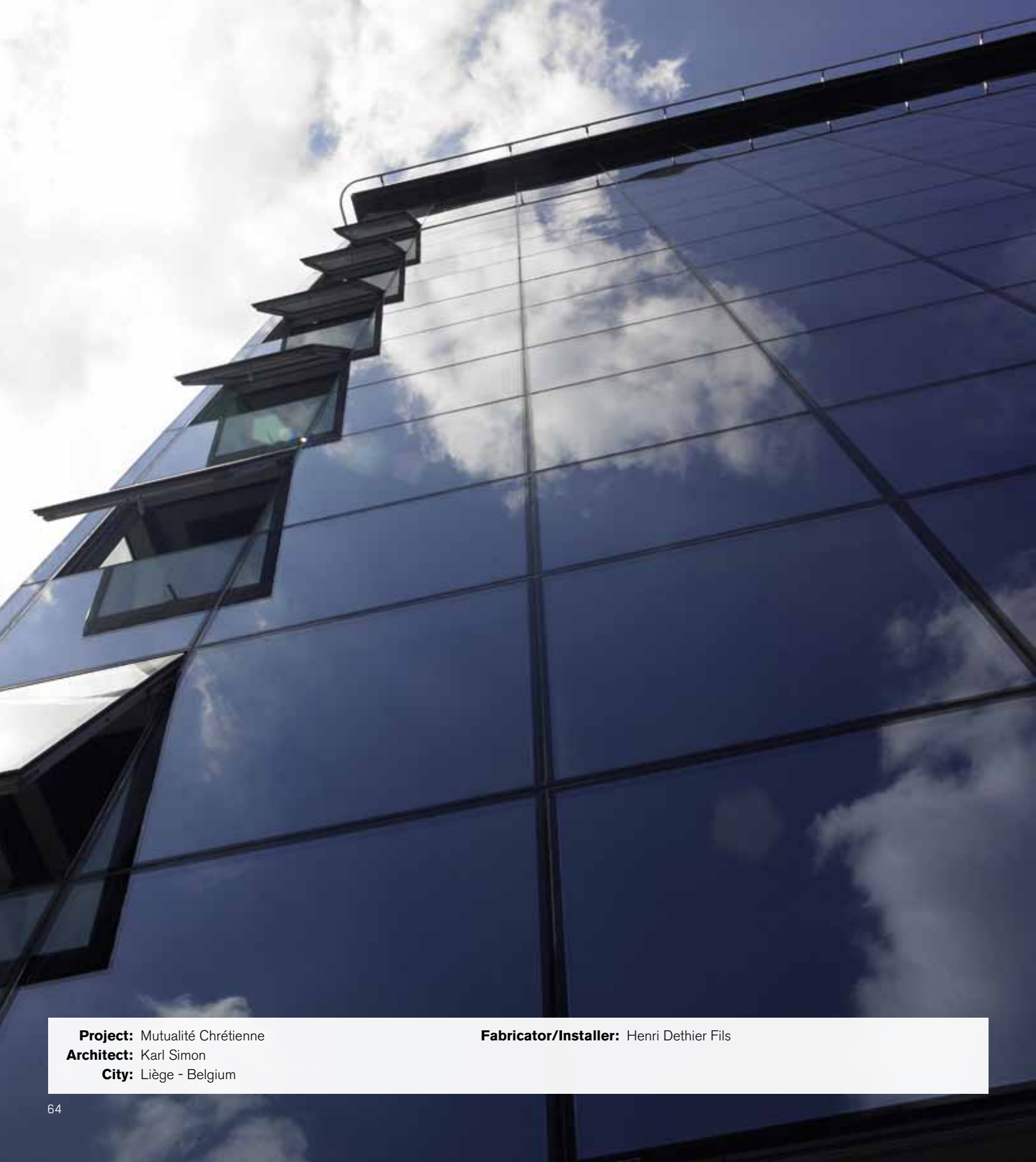
**Project:** Le Millenium  
**Architect:** Luc Arsène Henry et Alain Triaud  
**City:** Bordeaux - France  
**Fabricator/Installer:** Coveris

**Le Millenium  
 Bordeaux, France**

This office centre is located in the historical heart of Bordeaux, a city that was officially listed as a UNESCO World Heritage Site in 2007. The development's architect was quite charmed by Sapa Building System's slim profiles for façade systems. They offer a valuable space saving solution and form a horizontal line pattern which lets in maximum light and enhances the already spectacular view. To ensure quietness, all balconies overlooking the park and the surrounding area were fitted with inward opening casement windows and doors.

- Systems provided:**  
 \_\_\_\_\_  
 Curtain walling  
 \_\_\_\_\_  
 Casement windows  
 \_\_\_\_\_





**Project:** Mutualité Chrétienne  
**Architect:** Karl Simon  
**City:** Liège - Belgium

**Fabricator/Installer:** Henri Dethier Fils



**Mutualité Chrétienne  
Liège, Belgium**

In 2000 the management board of the Christian Health Service (CM) in Liège, Belgium, decided to renovate their office building dating from the 1970s. After 30 years of intensive use, the reinforcement of the concrete structures had deteriorated due to corrosion and the original glazing needed to be removed to bring up ventilation to current standards.

The architect proposed to sheath the building in a glass curtain wall, which immediately solved the problem with the reinforced concrete and created a uniform and contemporary outward appearance. Logically he decided to install a high quality aluminium and glass curtain walling between the load-bearing pillars that were integrated into the original façade. To reduce energy use and improve the quality of the working environment, he specified high-performance glazing for the curtain wall.



Sapa Building System's thermally insulating Elegance 52 SX sections were used in combination with glazing selected for high light transmission and UV protection. Sapa Building System sections were chosen for the façade framework. In the words of the architect Karl Simon aluminium is the ideal material for curtain walls on account of its strength, slenderness and lightness.

**Systems provided:**

Curtain walling





**Project:** Gasometer  
**Architect:** Coop Himmelb(l)au  
**City:** Vienna - Austria



**Gasometer  
Vienna, Austria**

The polygonal angular façade of this 70 metres high building appears to be laced up. The lower half leans backward by 6.5°, the upper half leans forward by an equal amount. The building is equipped with pivoting Excellence 65 windows that meet all technical requirements regarding water tightness (to 1,000 Pa), acoustic insulation (43 dB) and thermal insulation (RMG 2.1).

The balustrades were partially designed with enamel glazing or aluminium section plates. These were connected with specially developed frame structures, facilitating subsequent glazing from outside.

**Systems provided:**

Curtain walling





## Business Center Svyatogor

### Moscow, Russia

Svyatogor is a complex of office buildings located in downtown Moscow, not far from the Paveletsky railway station. Building 5 reflects many aspects of modern architecture and perfectly fits into the urban landscape. The façade of the building was successfully designed based on Sapa Building System products. It fully achieved all architectural objectives that were set by the client.

The design included a combination of the Elegance 52 ST façade system and the Excellence 65 three-chamber insulated system for windows and doors, which ensured complete architectural harmony and unity.



### Systems provided:

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Curtain walling

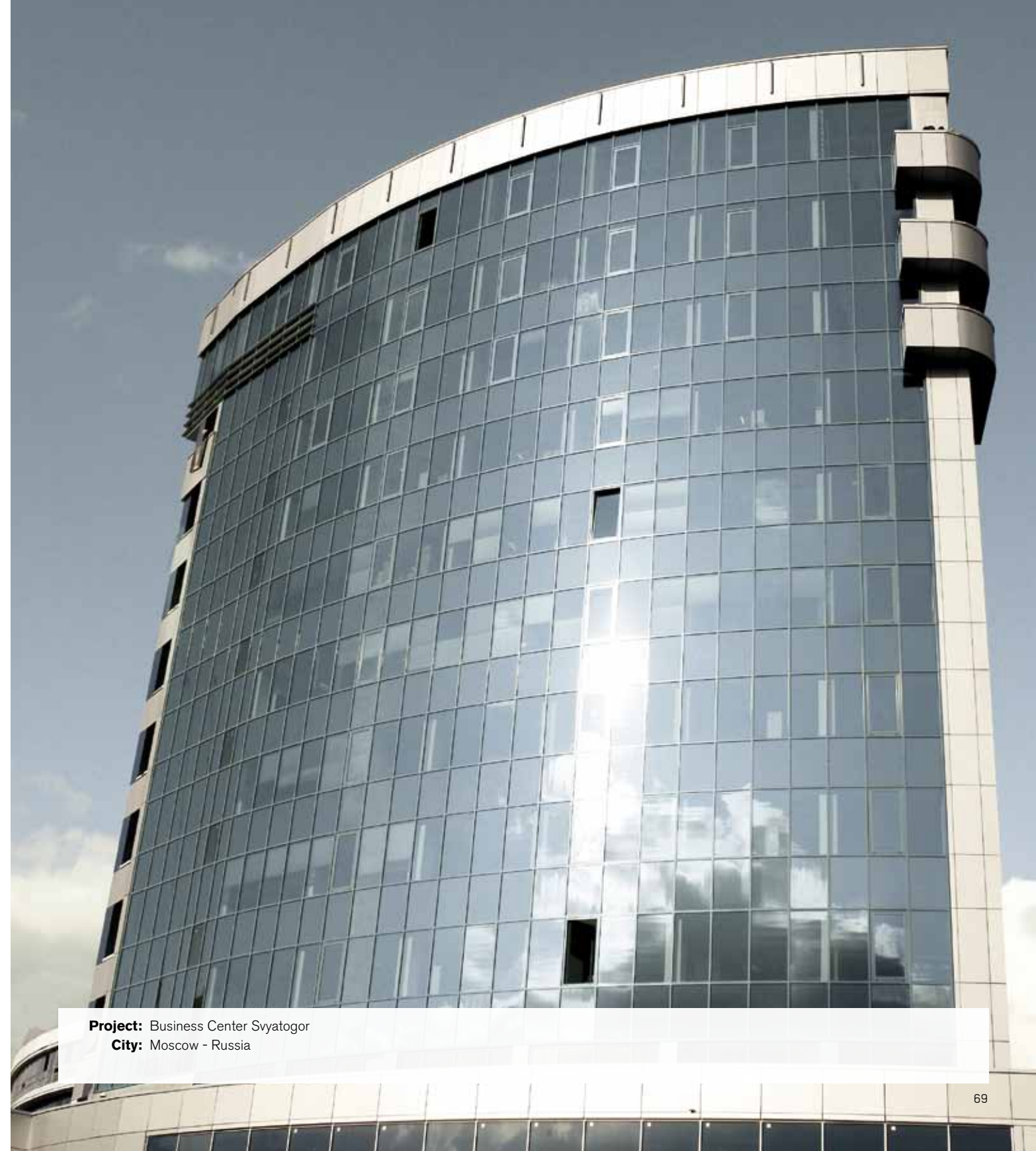
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Casement windows

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Doors

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**Project:** Business Center Svyatogor  
**City:** Moscow - Russia



## Commercial & Residential Tower

### Abu Dhabi, United Arab Emirates

The Shakhbout building is a 23 storey high-rise tower (plus two floors of underground parking) set in the heart of Abu Dhabi, the capital of the United Arab Emirates.

Not since the 1960s, when Abu Dhabi first rose from the desert sands, has the city seen anything like the transformation that is taking place today and will continue over the next 20 years. The United Arab Emirates has become the first developing country to host the office of a major international organisation with Abu Dhabi being the home to the headquarters of the International Renewable Energy Agency (IRENA). The Irena headquarters will be located in Masdar City Abu Dhabi, which is currently under construction. Masdar will be the world's first carbon-neutral city, with zero waste and completely powered by renewable energy.

The challenge for Sapa Building System was to come up with a technical solution that would suit the client's remit for clean architectural sight lines whilst at the same time allowing the building management system to perform well under extreme heat conditions. Thus the importance for an energy efficient solution together with an aesthetically pleasing aspect was always a pre requisite for the building's integrity.

#### Systems provided:

Curtain walling

Doors



**Project:** H.H. Sheikh Khalifa Bin Sultan Shakhbout Al Nayhan Tower  
**Architect:** Syr Consult International  
**City:** Abu Dhabi - United Arab Emirates

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