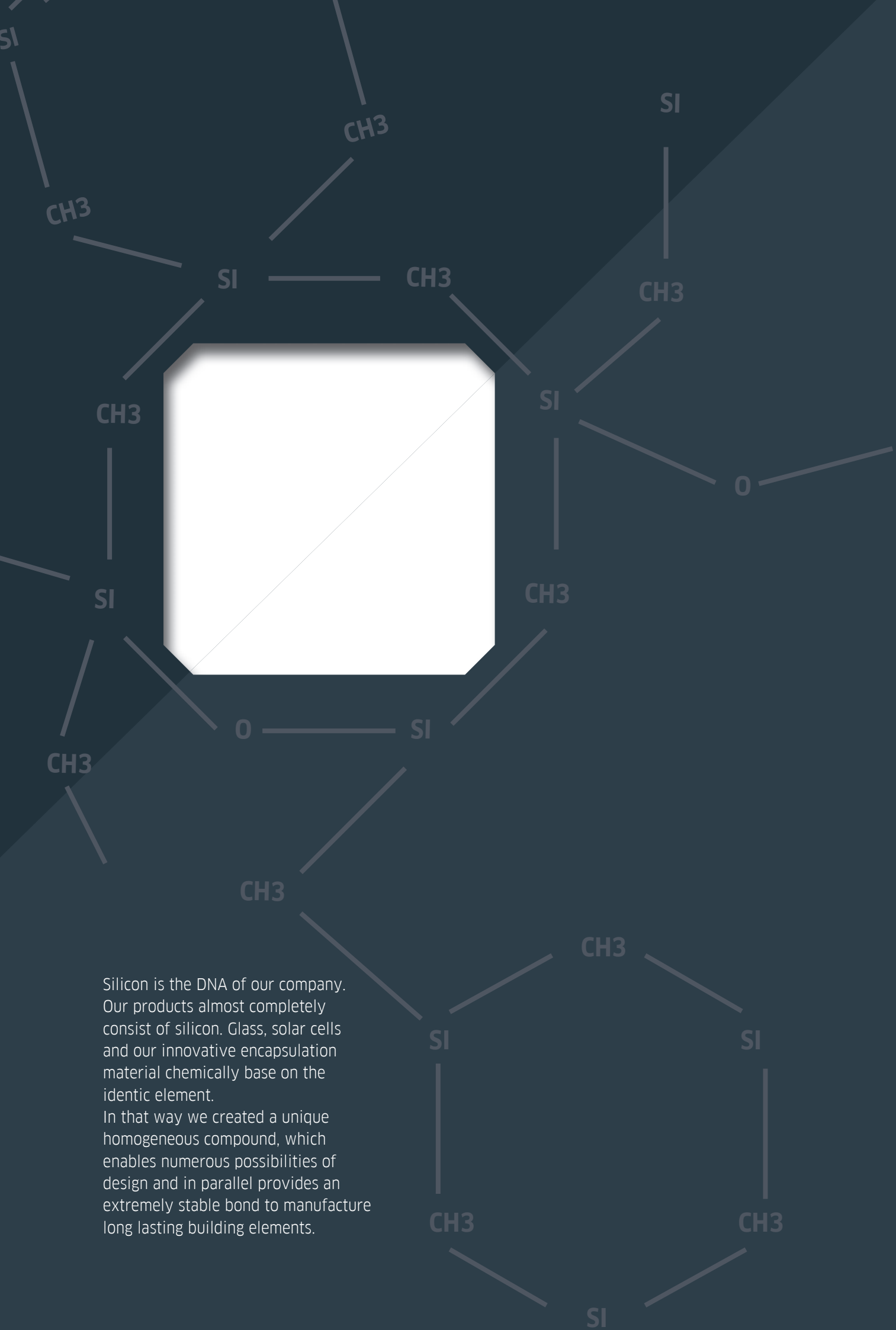
DISCOVER
NEW
PERSPECTIVES

SUNOVATION



Silicon is the DNA of our company. Our products almost completely consist of silicon. Glass, solar cells and our innovative encapsulation material chemically base on the identic element.
In that way we created a unique homogeneous compound, which enables numerous possibilities of design and in parallel provides an extremely stable bond to manufacture long lasting building elements.

DISCOVER NEW PERSPECTIVES

AESTHETICS OF NEW OPPORTUNITIES

The integration of photovoltaic glass into a facade or a vitreous skylight unlocks a variety of additional surfaces of a building to be used to generate solar power. New technologies allow us to install high efficient Solar glass that also blends in seamlessly with the individual architectural design of a building. Building Integrated PhotoVoltaics (BIPV), a way to create spectacular architectural effects, has become repositioned as a multi-functional building product.

This second-generation BIPV can provide a sustainable energy source combined with an attractive high-end building product. A well designed solar facade conveys innovation prestige and an environmentally responsible outlook. Investors will benefit over the entire lifespan from significant energy savings and make a distinctive eco-friendly statement.

CLAIM

Our emphasis at Sunovation is a presentable work.
We work with architects and structural engineers to come up with an optimum solution that fits in with your vision. We are passionate about our work and want to be proud of what we have created. We set high standards for ourselves with regard to aesthetics, quality and reliability. Our products contribute to both the beauty and energy efficiency of modern buildings.

TRUST

Trust is the starting point and bedrock of any collaboration. We keep our promises and will take care of any issues that arise. Our customers can always rely on us.

QUALITY

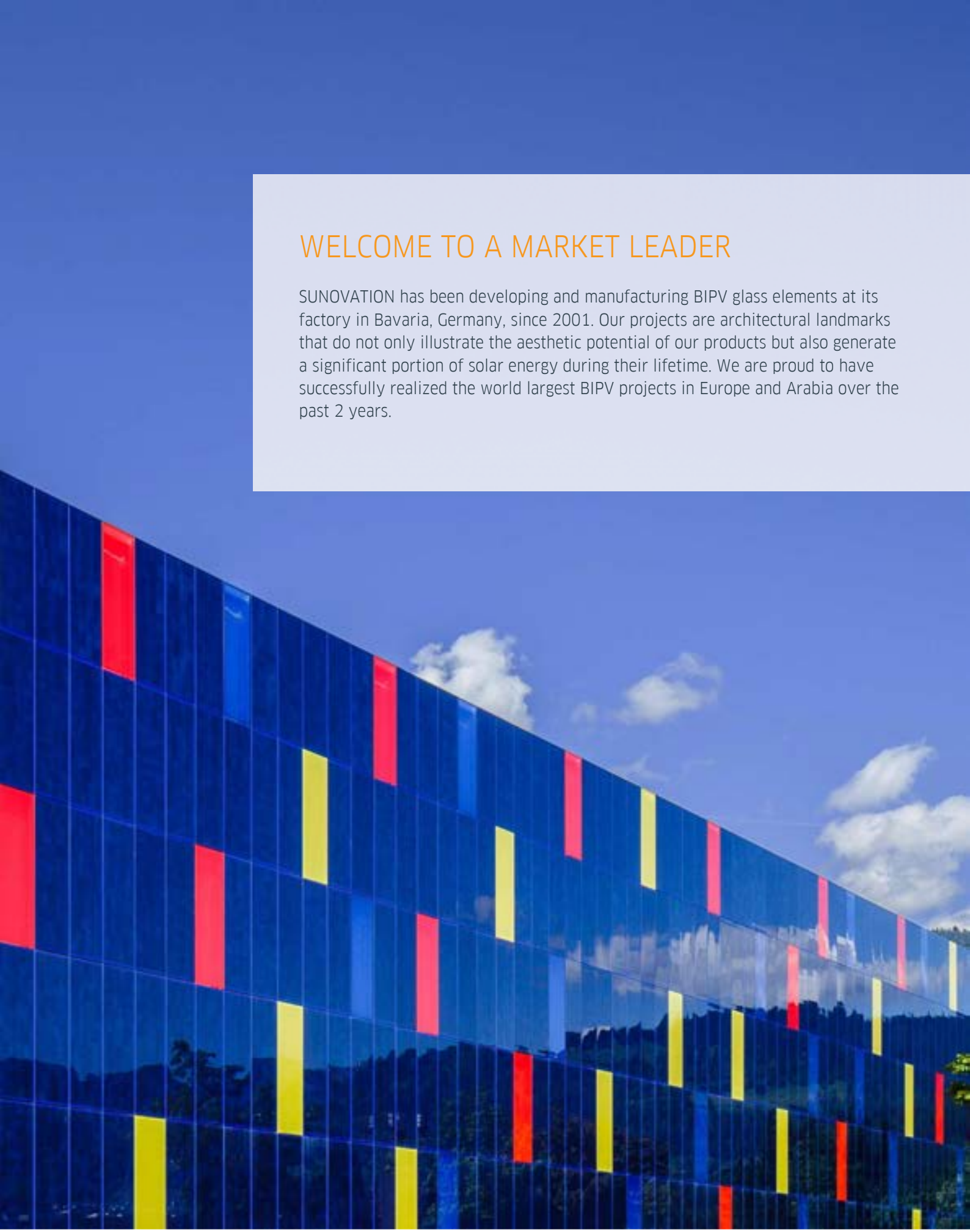
Quality should be more than a buzzword. Sunovation provides proven technologies and meets the highest standards with its products and services. Our products are widely tested and certified. All our processes meet the DIN ISO 9001-2015 international quality standards. Sunovation only works with leading suppliers that add here to the same high standards.
All components are developed, manufactured and assembled in Germany.

NETWORK

Sunovation can point to numerous of prestigious reference projects. We are well integrated in the business network of designers, architects and suppliers for glass, printing colors and solar equipment. Only in collaboration with our partners, we are able to find the optimum setup for our customers` solution.

WELCOME TO A MARKET LEADER

SUNOVATION has been developing and manufacturing BIPV glass elements at its factory in Bavaria, Germany, since 2001. Our projects are architectural landmarks that do not only illustrate the aesthetic potential of our products but also generate a significant portion of solar energy during their lifetime. We are proud to have successfully realized the world largest BIPV projects in Europe and Arabia over the past 2 years.



MASS CUSTOMIZATION

In 2014 we have opened our new factory site in Aschaffenburg (Bavaria). The new layout enables us to manufacture higher volumes for large customer orders. In a semi-automated process, we can quickly shift to different glass geometries during the running process. This is the ideal production process for large volumes with manifold variations in size or geometry.

MADE IN GERMANY

OPTIMIZED BIPV PRODUCTION

- Glass handling master layout
- Rack buffer for double shift operation
- Permanent piece flow control
- Automated cell stringing and layup
- Glass-metal bonding capabilities

AESTHETICS MEETS EFFICIENCY

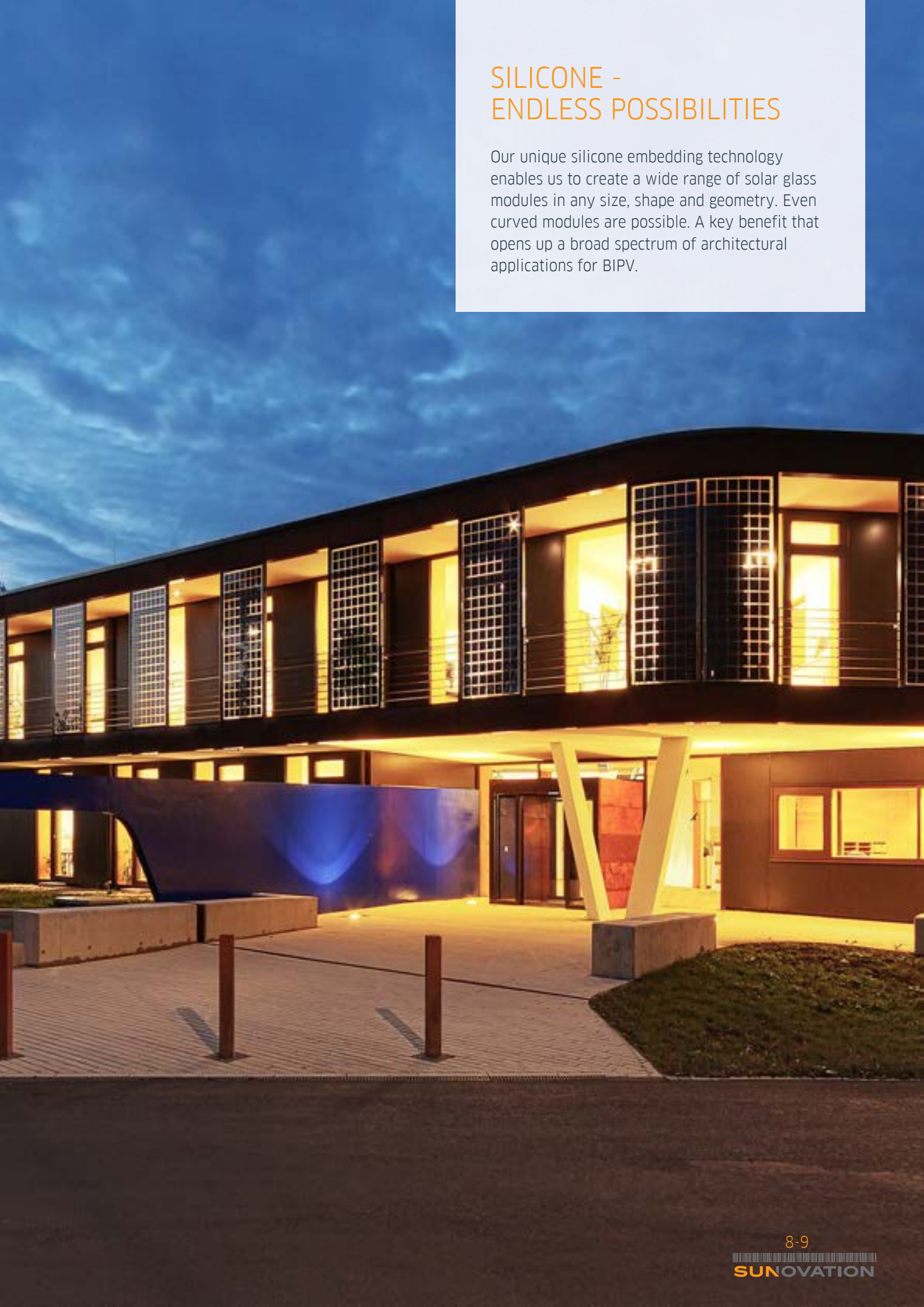
Making every building unique. Making every surface count. Integrating photovoltaic glass into your exteriors or having skylights made from BIPV opens up additional space for the generation of eco-friendly power. Thanks to cutting-edge technology, the ultra-efficient solar glass can either blend in seamlessly with the individual aesthetic of the architecture or create distinctive contrasts.

GLASS IN A NEW FORMAT

- Ecological prestige in superior aesthetics
- Using more of your buildings exterior for energy generation
- Meets environmental standards (LEED, BREEAM, DGNB ...)
- As easy to install as conventional glass
- Innovative alternative to standard cladding

SILICONE - ENDLESS POSSIBILITIES

Our unique silicone embedding technology enables us to create a wide range of solar glass modules in any size, shape and geometry. Even curved modules are possible. A key benefit that opens up a broad spectrum of architectural applications for BIPV.



NEW GREECE OPERA AND NATIONAL LIBRARY
Project in Athens

With its 10,000 sqm BIPV-roof, the new opera building in Athens raises the bar in terms of sustainability. The planners achieved LEED platinum certification. For reasons of aesthetics and maintenance, the glass modules were designed to be walked on.

/ 5,700 BIPV glass modules
/ 10,000 sqm total PV area
/ 1.62 MWp nominal power
/ 2 GWh annual energy production

The bridges were designed with arched roofs. The architects wanted the glass in the roofs to have the same domed shape. SUNOVATION was able to meet this specification thanks to silicone encapsulation technology.

- 8,600 BIPV glass modules
- 14 geometries
- 13,000 sqm total PV area
- 1.54 MWp nominal power
- 2.8 GWh annual energy production

AL-SHAMIYA EXPANSION OF THE HOLY MOSQUE
Project in Mecca

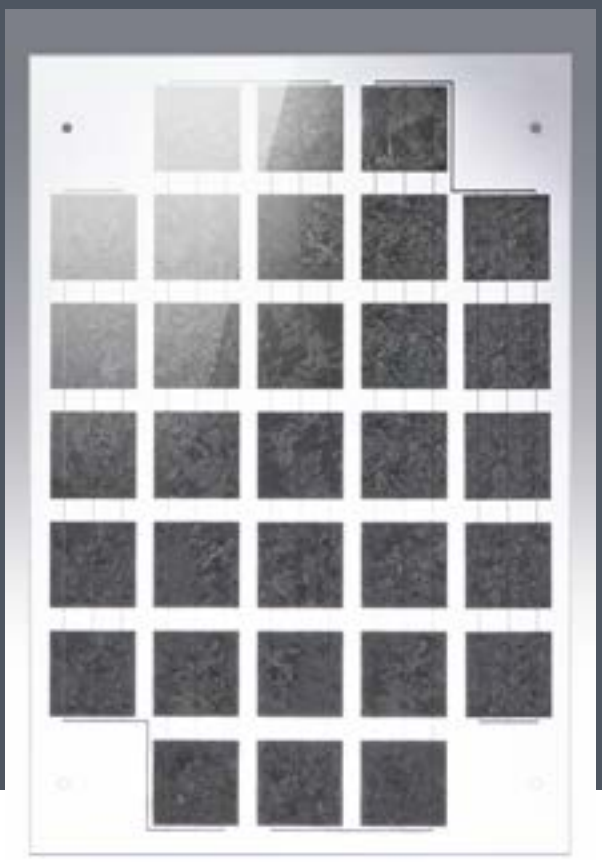
To better route the pilgrims from the arrival point to the center of the mosque, the architects designed four new bridges with solar glass roofs. Using SUNOVATIONs` unique technology, it was possible to cover the roofs with green solar glass modules that were curved to match the shape of the arch.

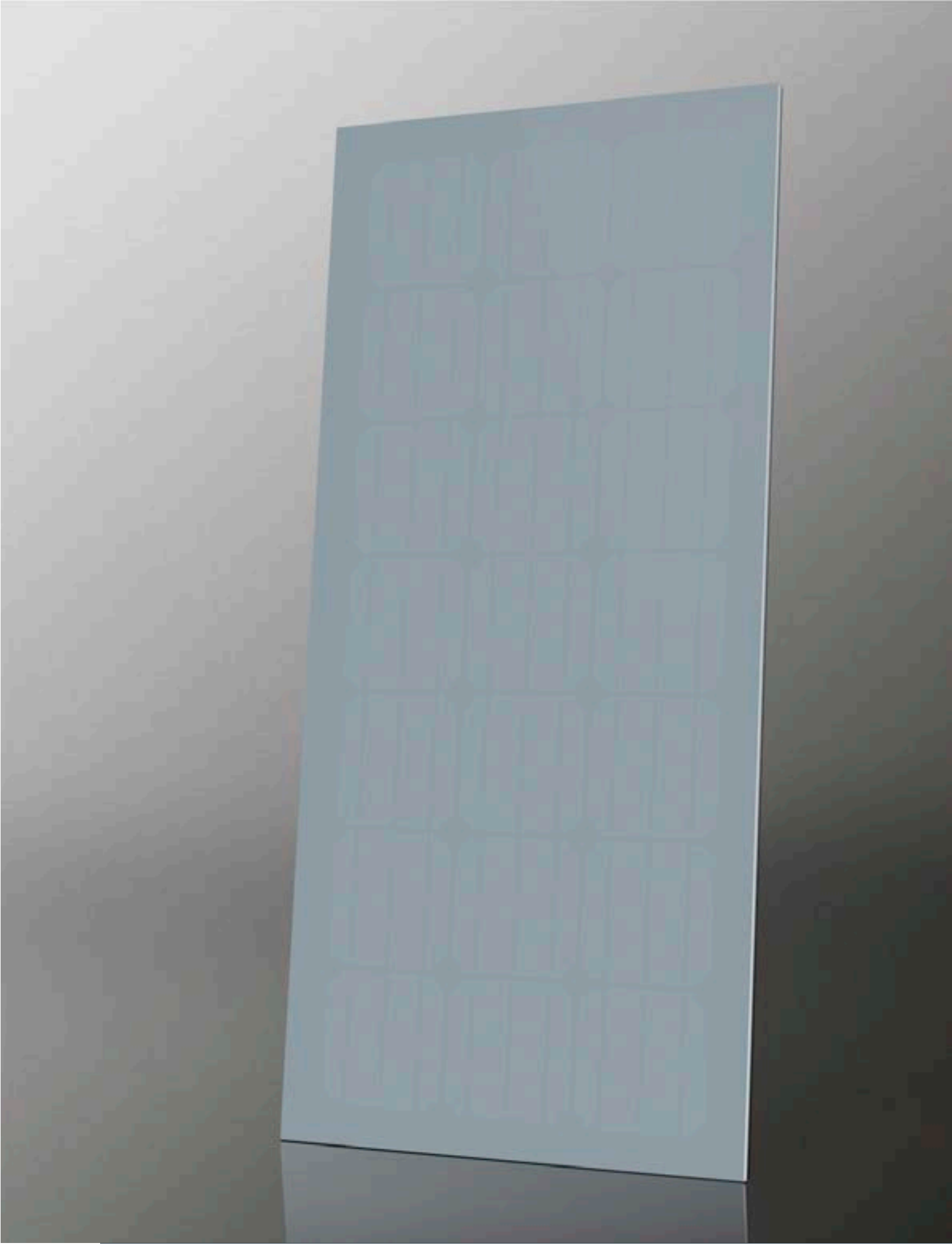
eFORM clear & eFORM color
PERFECT APPEARANCE

- Transparent look regardless the cell spacing
- Homogeneous look by screen printing of the cell colour on the rear of the glass
- All shapes and styles are possible
- Curved glass in either a convex or concave design

EASE OF INSTALLATION

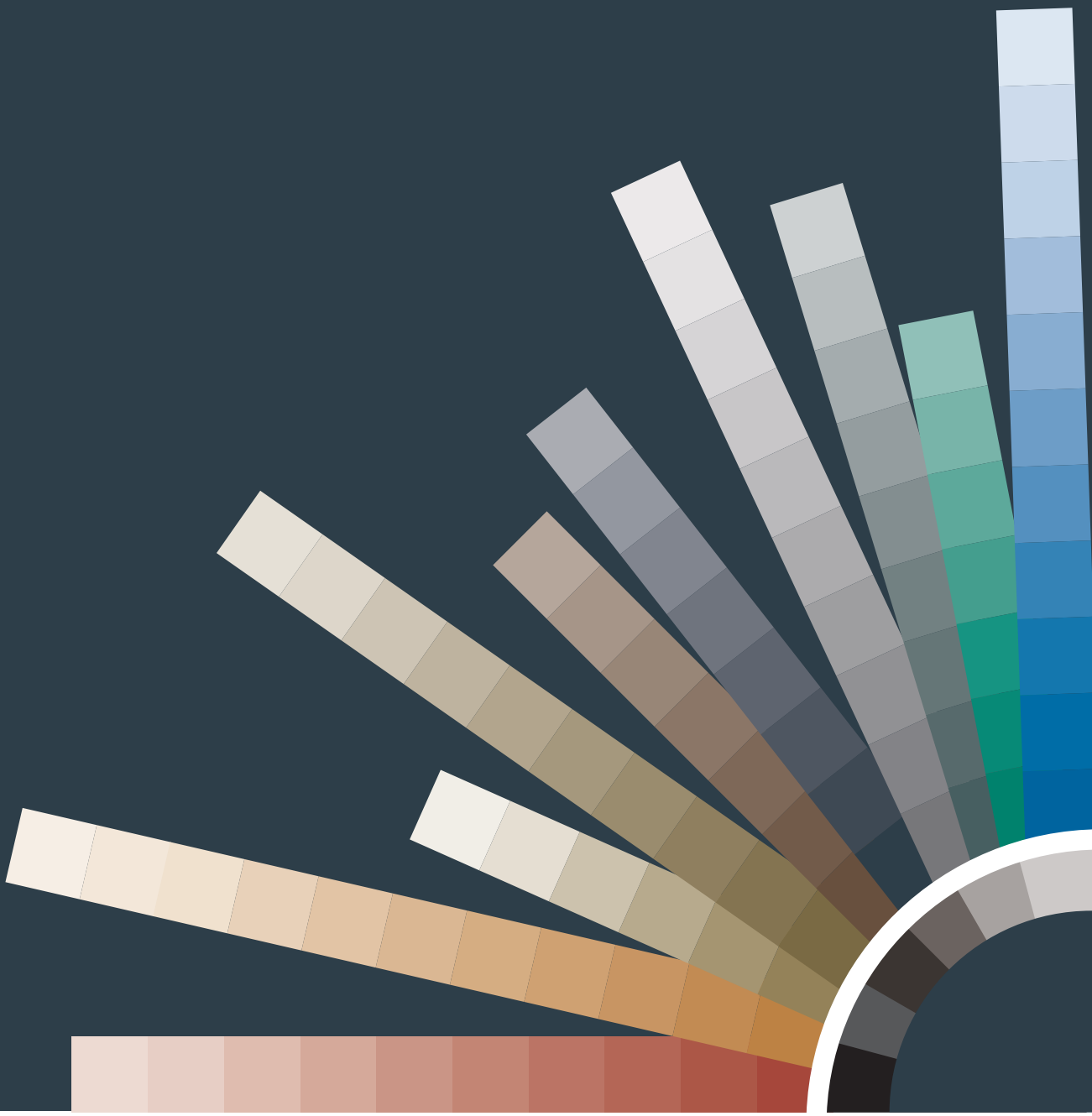
SUNOVATION solar glass modules can be mounted like any other glass in standard fixing profiles available on the market.
Cables and connectors can be hidden inside the profile, so that electricity parts are unvisible.





eFORM unichrome
A WORLD OF COLORS

A new ink technology, characterized by vibrant hues and optimum adhesion, provides a sufficient level of transparency for sunlight to shine through despite the excellent coverage. This process can produce a black-grey-white gradient as well as a number of other colors. State-of-the-art digital printing can be used to produce custom colors, images, company logos and even reliefs and other raised effects. These can be printed on single or over multiple modules.



HOW WE WORK

CONCEPT
visioning

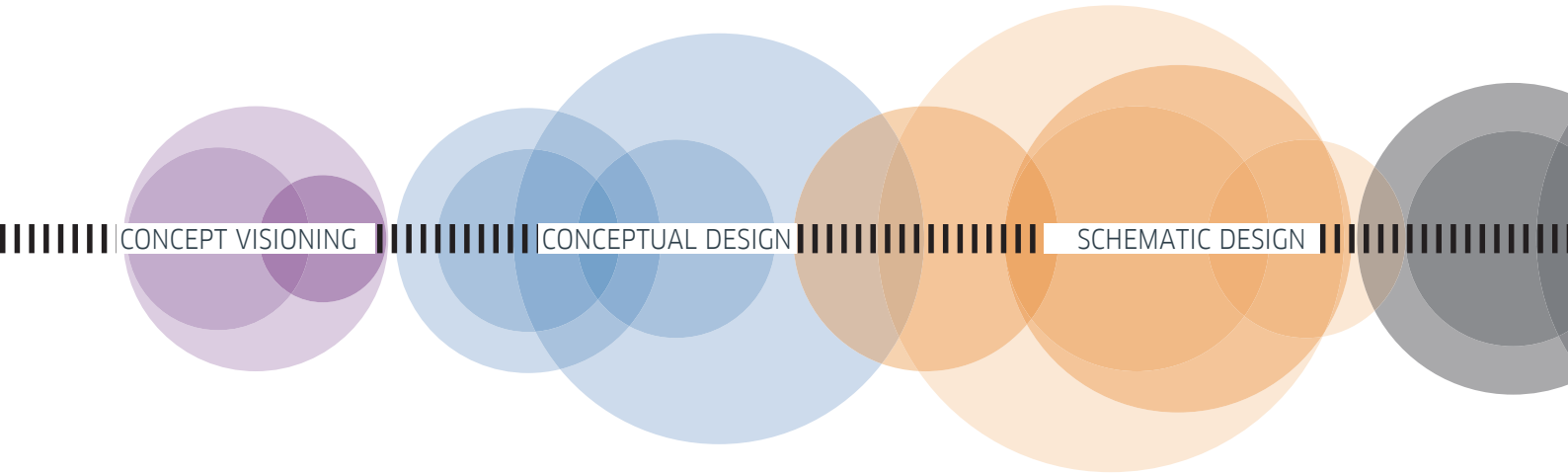
- Use & benefits
- Site assessment
- Eco targets
- Local constraints
- Samples
- References

CONCEPTUAL
design

- Design program
- Available areas
- Glass requirements
- Colors
- Sketches
- Renderings
- Cost estimate

SCHEMATIC
design

- General layout
- Sizes & geometries
- Static dimensions
- Underconstruction
- Fixation
- Power configuration



DESIGN
development

- Cell- & module layout
- Specification
- Technical drawings
- Cost revision
- Production schedule
- Mock-up

CONSTRUCTION
documents

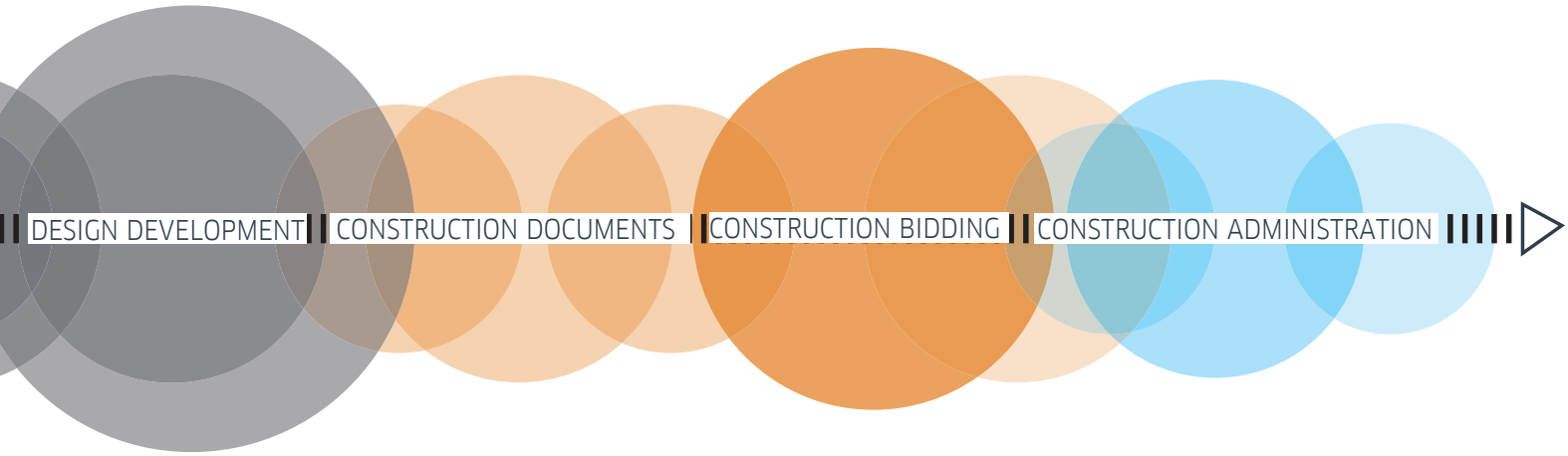
- Detailed drawings
- Data sheets
- Certifications
- Tests

CONSTRUCTION
bidding

- Tender documents
- Offer
- Final pricing
- T & C
- Contract specification

CONSTRUCTION
administration

- Operation manual
- Maintenance instruction
- Power monitoring
- Operation services



CERTIFIED QUALITY

- All process steps documented
- Annual audit by TUeV Rheinland
- Permanent inline quality control
- Quality analysis on single piece level
- 100% Electroluminescent (EL Pic) cell control
- Calibrated Flasher by Fraunhofer Institute
- Duplex product and packaging end control
- Customer access to individual project database

Certificate

Standard ISO 9001:2008

Certificate Registr. No. 01 100 1500550

Certificate Holder: SUNOVATION

SUNOVATION Produktion GmbH
Glanzstoffstr. 21
D - 63820 Elsenfeld

including the location

SUNOVATION Produktion GmbH
Rucheinheimstr. 4
D - 63743 Aschaffenburg

Scope: Development, production and sales of special glass elements for facades and roof applications

Proof has been furnished by means of an audit that the requirements of ISO 9001:2008 are met.

Validity: The certificate is valid from 2015-08-05 until 2018-08-04.

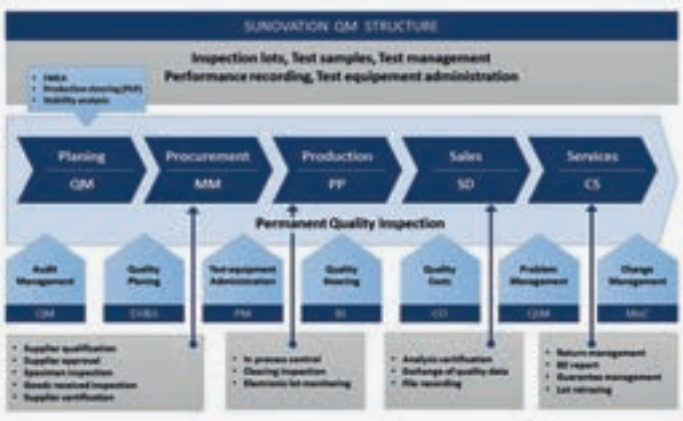
2015-08-06

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

www.tuv.com

DAkkS

TÜVRheinland®
Precisely Right.



SUNOVATION GmbH
Walter-Reis-Straße 1
63785 Obernburg

Tel: +49 (0) 6022 / 26573-0
info@sunovation.de
www.sunovation.de