

eyrise® S350  
INSTANT SOLAR  
SHADING GLASS







# AN INTEGRATED SOLAR SHADING SOLUTION FOR FACADES

eyrise® s350 is a unique switchable glass system driven by liquid crystal technology. The glass controls incoming solar heat and sunlight in an instant, without the need for high-maintenance exterior window blinds, or a complex facade build-up.

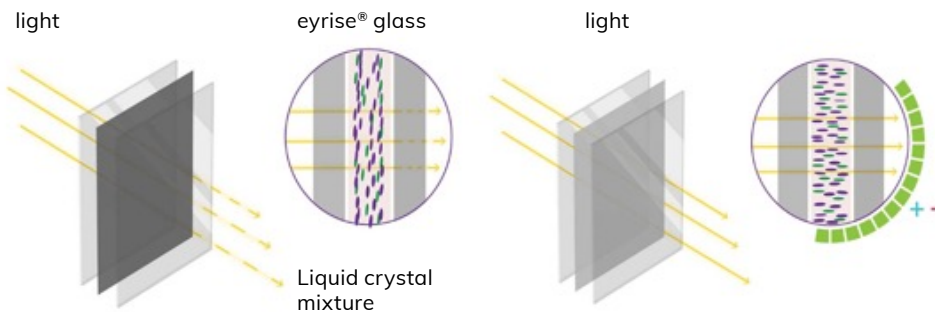
## HOW DOES IT WORK?

Licrivation®, a transparent liquid crystal mixture is placed between two glass sheets covered with a transparent conductive coating. When voltage is applied, the crystals change their orientation.

## TRULY DYNAMIC: INSTANT SWITCHING

eyrise® s350 is a sustainable facade solution, able to reduce the embodied and operational carbon of your building. It improves user comfort by allowing you to individually control the amount of light and heat in your environment.

Thanks to liquid crystal technology, it is possible to switch the glass in different stages of shading power in a second. This can be controlled manually or automated within a building management system.



## EYRISE® IS THE ONLY DYNAMIC SHADING SOLUTION BASED ON LIQUID CRYSTAL TECHNOLOGY

- Physical movement of the crystals = switches instantly and countless times, just like a TV screen
- One window = 1 pixel
- The switching speed and visual quality is independent of the glass size
- Colour neutral glass
- Low energy consumption



# A SUSTAINABLE SOLUTION, WITH LOW CARBON FOOTPRINT

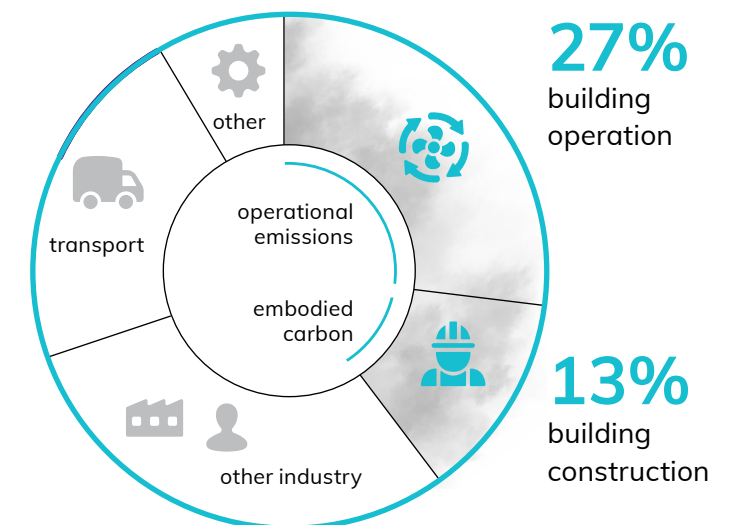
## Did you know?

eyrise® s350 combines the functions of solar shading and glass in one solution. This leads to a carbon footprint (GWP) which is only **HALF** that of traditional exterior blinds."

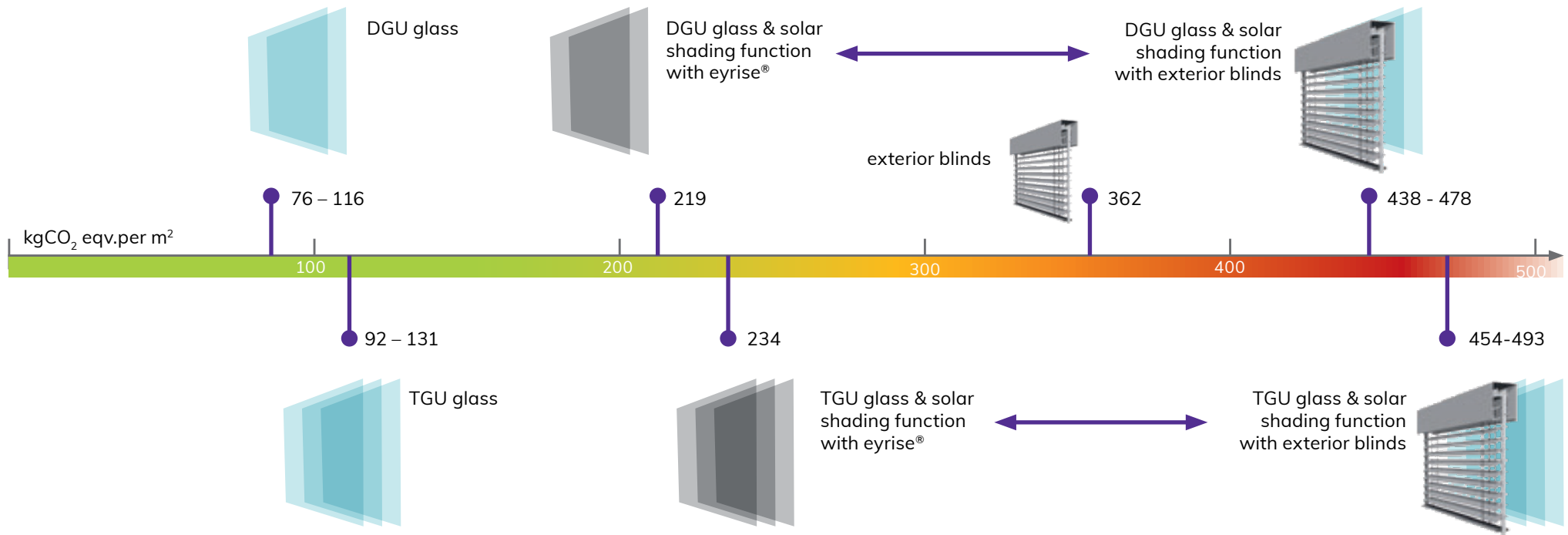
source: EPD's eyrise® and IFT Rosenheim

The building industry is responsible for 40% of all global carbon emissions. The 5% largest buildings count for half of all building emissions, so there is a real need to reduce carbon emission. source: UN

## WORLDWIDE CARBON EMISSIONS



## EMBODIED CARBON COMPARISON



EPD Double  
Glazing unit



EPD Triple  
Glazing Unit

eyrise® s350 solar shading glass for facades and roof lights is an environmentally friendly solution, produced in Europe using renewable energy.

### Save on operational carbon emission:

→ energy saving on cooling and heating.

### Save on embodied carbon:

→ lower Global Warming Potential than similar solutions.

For more details, please check our Environmental Product Declarations (EPD).



A photograph of a modern building with a glass facade. The glass reflects a lush green landscape with trees and a blue sky with some clouds. The building is on the left side of the image, and the reflection is on the right. The text is overlaid on the image.

# A SUSTAINABLE SOLUTION, SUPPORTING YOUR ESG GOALS

“EYRISE, LEADING THE DEPLOYMENT OF THEIR LIQUID CRYSTAL GLASS PRODUCT, IS ONE OF THOSE DISRUPTIVE TECHNOLOGIES THE WORLD NEEDS.”

KEVIN HYDES, CHAIR & FOUNDER INTEGRAL GROUP  
FORMER CHAIR OF THE WORLD GREEN BUILDING COUNCIL

Environment, Social responsibility and Governance (ESG) are three fundamental factors for measuring a company's sustainability, ethical approach and social impact.

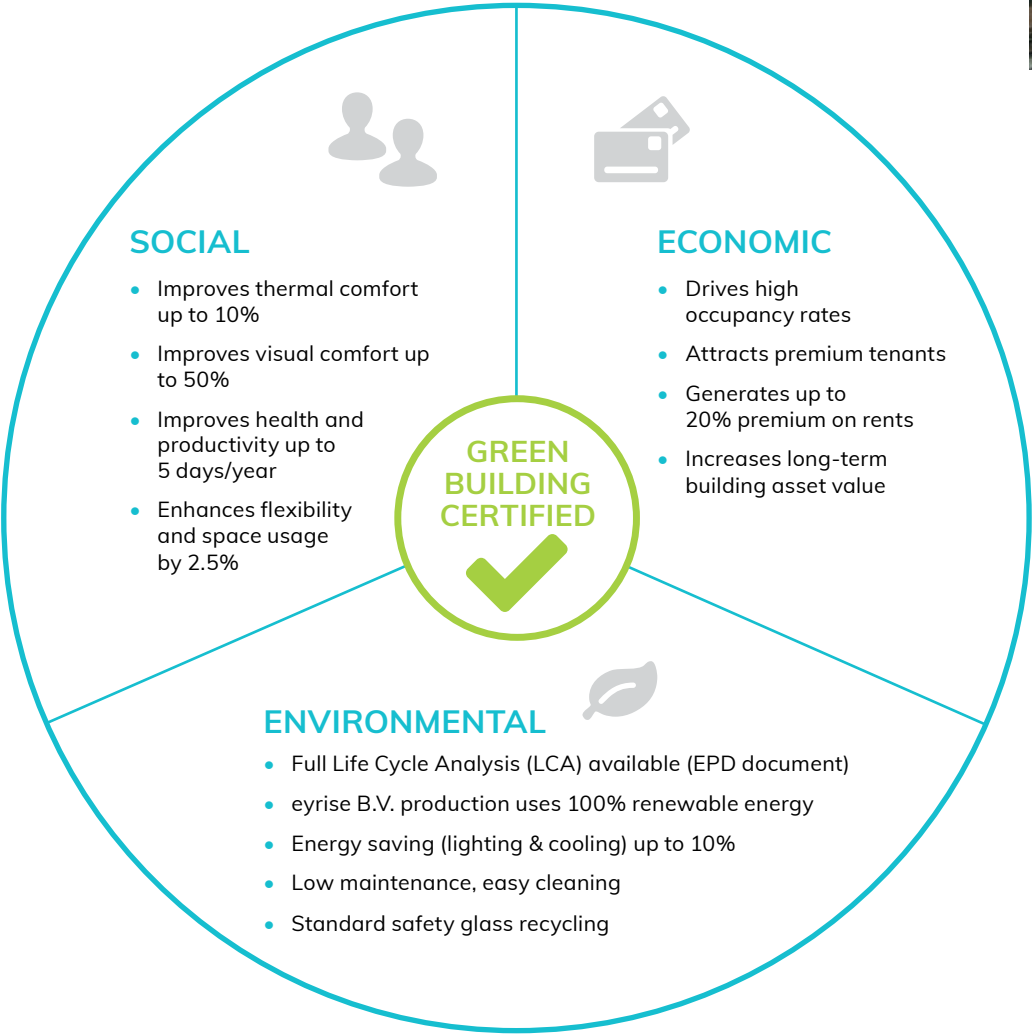
By reducing embodied carbon as well as operational carbon, eyrise® can support the ESG goals many owners have set for new buildings or renovations. Beyond this ecological advantage, buildings fitted with eyrise® also have a positive impact on human and economic factors as well.

Green Building Certifications recognise the ESG efforts taken by building owners to make a building more sustainable.

Using eyrise® can contribute to a significant number of credits in those certification labels and helps to fit all three categories.

**Contact us to find out how we will contribute to WELL, LEED, BREEAM, SNBS, DGNB and HQE and others.**

EYRISE® CONTRIBUTES TO ALL THREE FACTORS  
OF GREEN BUILDING CERTIFICATIONS



**Did you know?**  
eyrise® can support you  
to gain credits for Green  
Building Certification.



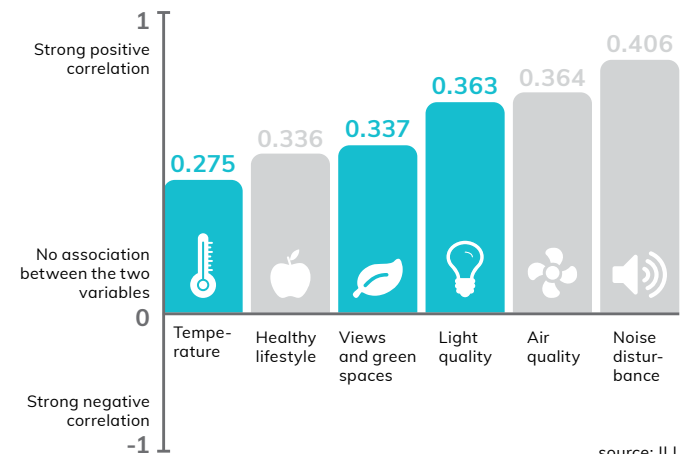


# IMPACT ON WELL-BEING AND COMFORT

## PERMANENT ACCESS TO DAYLIGHT

Compared to traditional shading, eyrise® preserves a permanent view to the outside, allowing incoming daylight at all times. This has a strong correlation with increased creativity, productivity and people's well-being.

## CORRELATION SCORE WITH PRODUCTIVITY





**Did you know?**  
Investing in sustainable  
technology increases  
employee satisfaction and  
productivity.

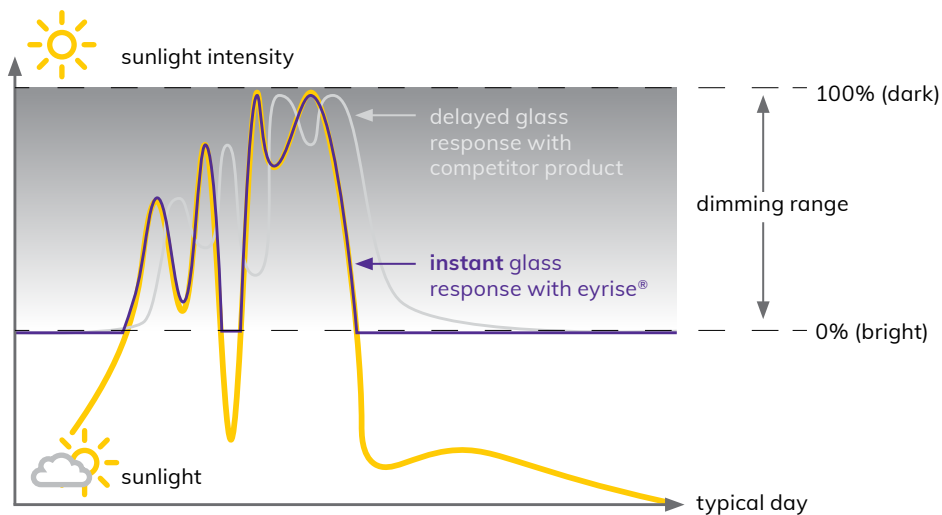
source: World Economic Forum



## USER EXPERIENCE

Instant and on demand. eyrise® can immediately respond to quickly changing weather conditions as well as manual user input. eyrise® solar shading glass provides a wide range of dimming between bright and dark stages to ensure optimal natural light conditions in the building.

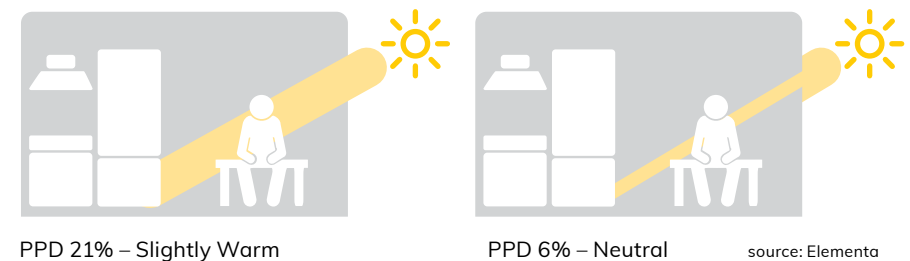
### DYNAMIC GLASS RESPONSES ON SOLAR SENSOR



## THERMAL COMFORT

Overheating is measured as the overall heating of a space. Thermal comfort takes into account the position of a user relative to the glass. Using Predicted Percentage Dissatisfaction (PPD) value as a metric, it represents the proportion of occupants that would be dissatisfied with a particular comfort scenario, and a well-established target for PPD is less than 10%.

**eyrise® Liquid Crystal Glazing achieves 6% PPD compared to 21% PPD for traditional glazing + external shading.**  
Find out more online in our study “Chasing Transparency”





# A COLOUR NEUTRAL FACADE SOLUTION

The neutrality of the glass allows you to enjoy natural daylight without any negative colour rendering effects.

As the colour temperature of the daylight evolves throughout the day, eyrise® s350 has no negative influence on human circadian biorhythm.

This neutrality preserves the natural colour of skin, food or artwork, as well as the outside view.

**Did you know?**  
The more the interior  
light matches daylight  
colours, the healthier  
it is for people.



# QUALITY & CERTIFICATIONS



## FUNCTIONALITY TESTING

**1 million switching cycles**  
which corresponds to 110 switches  
a day over 25 years



## UV TESTING

**UV light**  
Exposure @1000 W/m<sup>2</sup> for 2000 h  
according to EN ISO 12543-4



## TEMPERATURE TESTING

**Temperature stability**  
tested from -40°C to 100°C

**Environment testing**  
Damp and heat test 85°C at 85% rH

## CE CERTIFICATION

**EN 14449:2005** Glass in building –  
Laminated glass and laminated safety glass

**EN 1279:2018** Glass in Building –  
Insulating glass units

**EC 61000** Electromagnetic compatibility  
(EMC) glass

## GLASS VISUAL QUALITY

We assess glass quality according to  
“Guidelines to assess the visible quality of  
glass in buildings” and “Guidelines  
for assessing the visual quality for systems  
in multiple-sheet insulating glass” Issued by  
Bundesverband Flachglas e.V.





# COMPARISON TO CONVENTIONAL SHADING

“NOBODY WANTS TO HAVE EXTERNAL SUN SHADING  
THESE DAYS, IT IS A HEADACHE [...]   
WHEN I MEET MY CLIENTS I ALWAYS MENTION EYRISE.”

AUSRA VANKEVICIUTE, GROUP CEO AT STATICUS

eyrise® is the ideal alternative or replacement for mechanical blinds and fixed systems due to its low maintenance and productivity benefits.

Guaranteed permanent outside views, access to daylight and fast weather adaptivity all increase the well-being of office staff.

Your investment in eyrise® is equal to other solutions, calculated over a longer period because no maintenance and repair are needed.

At the same time, eyrise® has a significantly lower carbon footprint than solutions with exterior mechanical blinds.



## SUN-SHADE BENCHMARKING



	Dynamic Glazing – liquid crystal technology (does not require additional shading)		Dynamic Glazing – electrochromic technology (does not require additional shading)		Double skin facade (passive ventilation, with integrated shading)		High selective solar control glazing with external shading		External shading (with low-e-glazing)	
Sustainability contribution	● ● ● ●		● ● ● ●		● ● ● ●		● ● ● ●		● ● ● ●	
	Open	Closed	Open	Closed	Open	Closed	Open	Closed	Open	Closed
Glare control	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●
Natural light transmission	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●
Neutrality of the transmitted colour	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	Depends on the glass used in the glazing. Colour neutral blinds/ screens have no impact on the transmitted colour.					
Unobstructed view to the outside	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●
Solar control	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●
Switching time	< 1 second		Up to 15 minutes		A few seconds		A few seconds		A few seconds	
Energy saving of the shading system	● ● ● ●		● ● ● ●		● ● ● ●		● ● ● ●		● ● ● ●	
Aesthetic uniformity of the facade	● ● ● ●		● ● ● ●		● ● ● ●		● ● ● ●		● ● ● ●	
Ease of cleaning	● ● ● ●		● ● ● ●		● ● ● ●		● ● ● ●		● ● ● ●	
Maintenance requirements	Low		Low		High		Low		High	
Free from conditions that prevent proper functioning	● ● ● ●		High Temperatures ● ● ● ●		● ● ● ●		Strong wind loads ● ● ● ●		Strong wind loads ● ● ● ●	
Cost (investment + maintenance & replacements	Invest ● ● ● ● maintain ● ● ● ●		Invest ● ● ● ● maintain ● ● ● ●		Invest ● ● ● ● maintain ● ● ● ●		Invest ● ● ● ● maintain ● ● ● ●		Invest ● ● ● ● maintain ● ● ● ●	
Non-existent ● ● ● ●    Low ● ● ● ●    Middle ● ● ● ●    Good/High ● ● ● ●    Very Good/High ● ● ● ●										
source: Guardian Glass										

source: Guardian Glass

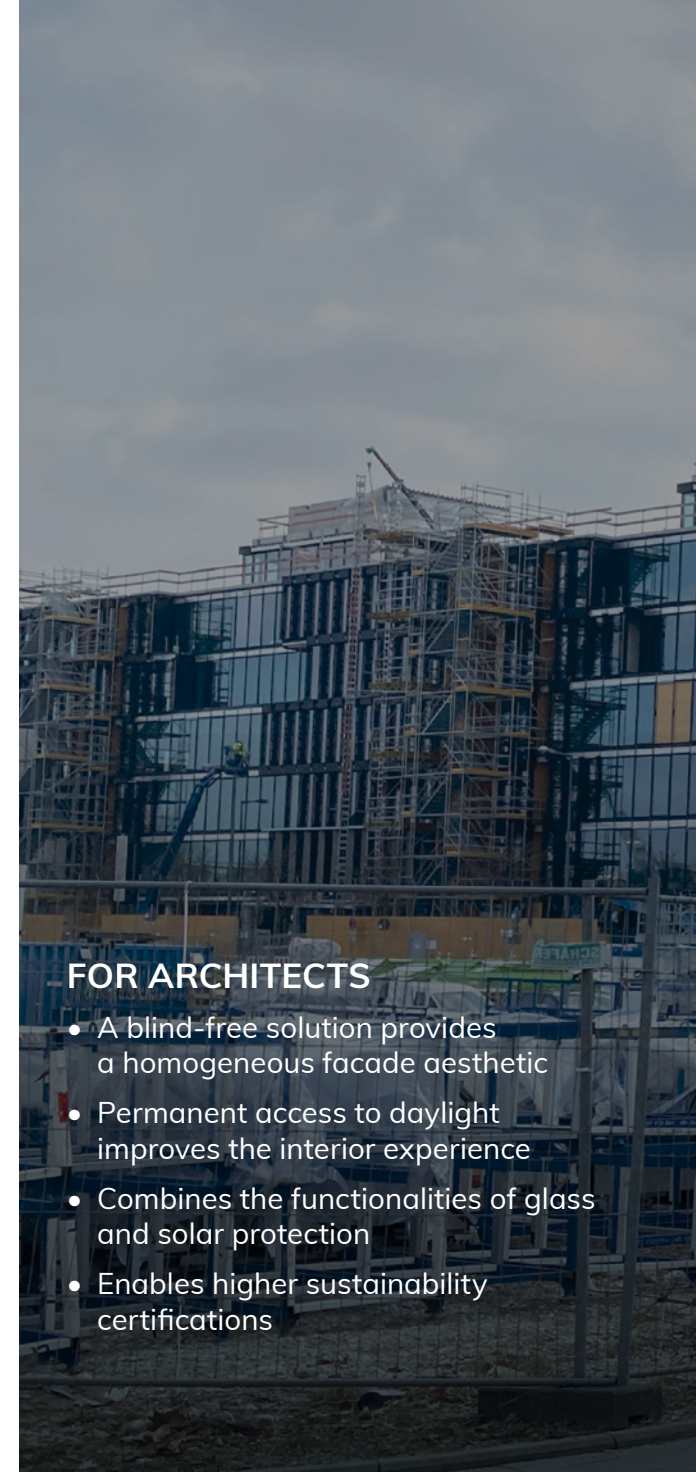
# THE IDEAL SOLAR SHADING SOLUTION FOR YOU

## FOR REAL ESTATE OWNERS AND INVESTORS

- Increases long-term building value
- Contributes credits to main green building certifications
- Improves productivity through ideal temperature and light conditions for building users
- Generates up to a 20% premium on rent

## FOR ARCHITECTS

- A blind-free solution provides a homogeneous facade aesthetic
- Permanent access to daylight improves the interior experience
- Combines the functionalities of glass and solar protection
- Enables higher sustainability certifications







## FOR FACADE ENGINEERS AND INSTALLERS

- Works with every facade system, comparable with a standard IGU
- Design optimisation support in the planning phase and installation
- Advise on integration of glazing functionality in the building control system
- Offers the customer a sustainable solution



## FOR ESG MANAGERS

- Enables higher sustainability certifications
- EPD provides full disclosure on environmental impact
- Documentation support in the green certification process



## FOR TENANTS

- Building users experience higher productivity and well-being
- Users can have individual control of the glass with flexible programming
- Ideal temperature and light conditions promote talent retention and employee engagement



# CASE STUDY

**“WHAT CONVINCED US ABOUT EYRISE IS THAT IT IS A VERY FAST SWITCHING AND COLOR NEUTRAL DYNAMIC GLASS, PRODUCED IN EUROPE: DELIVERY ROUTES ARE SHORT AND QUICK PRODUCT AVAILABILITY IS GUARANTEED.”**

URS BAUMANN, CHIEF INVESTMENT OFFICER, SWISS PRIME SITE

## MÜLLERSTRASSE ZÜRICH

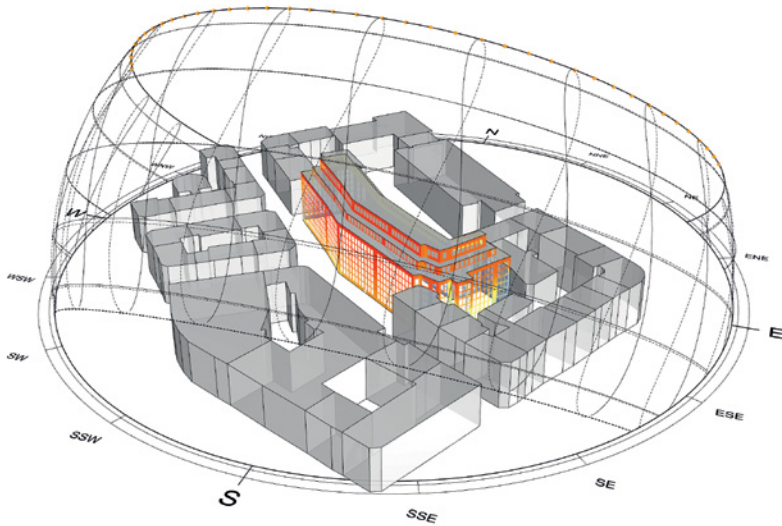
One of the biggest investment groups in Switzerland, Swiss Prime Site decided to invest in eyrise® for the renovation of its 1980s office building. Following the full renovation, this green certified building will be the headquarters for Google Switzerland.

eyrise® will contribute to a better SNBS certification and a guaranteed higher rental income for the investor. In the planning phase, our engineering team performed a solar radiation study to determine which liquid crystal mixture would give the best protection.





## SOLAR RADIATION MODELLING



### KEY FACTS

Building Owner: Swiss Prime Site

Facade contractor: Aepli Metallbau AG

Future tenant: Google

Surface: 3327 m<sup>2</sup>

Number of panels: 1080

Type: Triple Glazing Units

Green Building Certified according to SNBS and Minergie standards.

Short lead times from the factory in Europe to the building site.



## HOW EYRISE® SUPPORTS CUSTOMERS IN THEIR JOURNEY

Definition of glass build-ups according to specification and standards

Data support to gain extra Green Building Certification credits

Study on solar impact over 365 days, adapted to the location of the building: latitude, altitude, and neighbouring structures

Advise on integration of glazing functionality in the building control system

Support glass installation

User experience setup

After-sales support

For more project references,  
check [www.eyrise.com](http://www.eyrise.com)



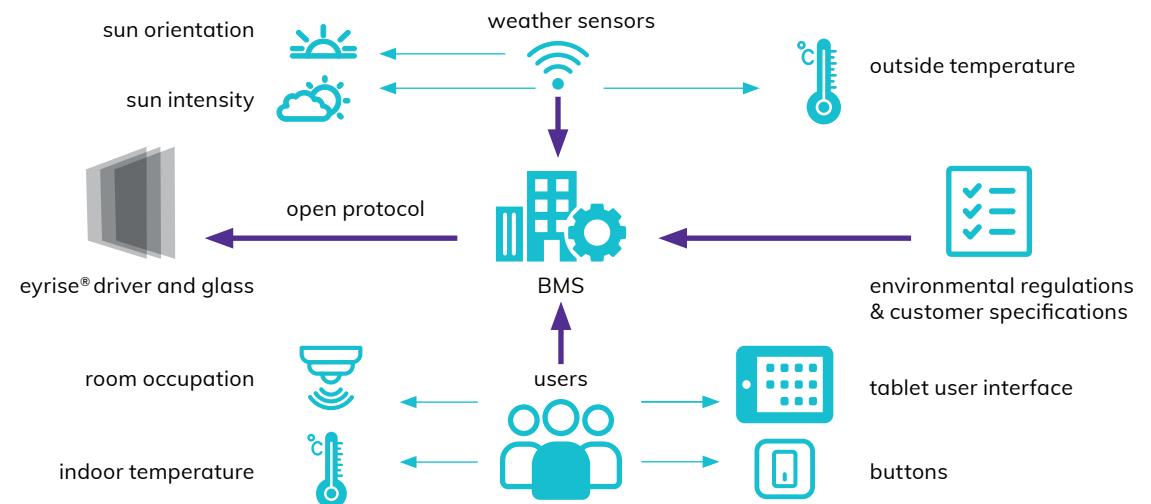
# CONTROL & CONNECTIVITY

eyrise® offers a simple plug-and-play solution based on open and standard building automation protocols. The glass shading can be controlled manually or fully automated according to your preferences, together with other systems such as HVAC, lighting, and security for any building type. The easy integration allows automatic weather-based adjustments to provide shading and glare control for high energy efficiency, productivity and well-being.

Electrical consumption of glass	less than 1W/m <sup>2</sup>
Driver	Connection of multiple glass panels per driver
Communication	Analogue input 0-10 V or Standard BMS protocol
Glass connection	30m maximum between glass and driver. Connection to glass IP 67

## EASY CONNECTIVITY TO BUILDING AUTOMATION

eyrise® offers flexibility with a wide range of control options.

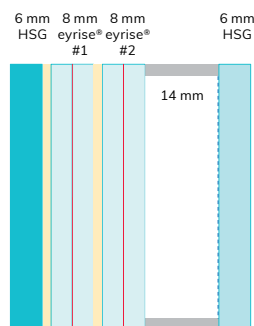




# PRODUCT SPECIFICATIONS

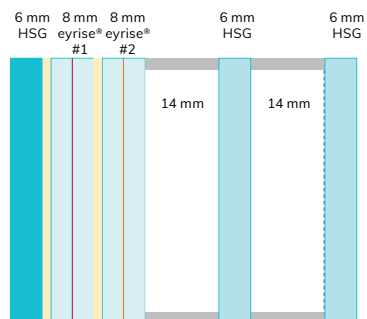
**Did you know?**  
eyrise® consumes only  
1 W/m<sup>2</sup>. three solar panels  
are sufficient to power  
1000m<sup>2</sup> of eyrise® glass.

## eyrise® s350 Double Glazing Unit

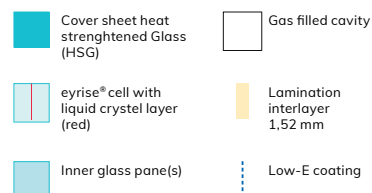


eyrise® liquid crystal mixture	Light transmittance		Solar factor/ g-value		Heat transfer coefficient	General colour rendering index R <sub>a</sub>	
	Bright (%)	Dark (%)	Bright	Dark	U-value (W/m <sup>2</sup> K)	Bright	Dark
LC mixture C	50	13	0,34	0,16	1,1	93	88
LC mixture D	44	9	0,31	0,14	1,1	93	89
LC mixture E	37	4	0,28	0,11	1,1	91	89

## eyrise® s350 Triple Glazing Unit



eyrise® liquid crystal mixture	Light transmittance		Solar factor/ g-value		Heat transfer coefficient	General colour rendering index R <sub>a</sub>	
	Bright (%)	Dark (%)	Bright	Dark	U-value (W/m <sup>2</sup> K)	Bright	Dark
LC mixture C	45	12	0,29	0,12	0,6	91	86
LC mixture D	40	8	0,26	0,10	0,6	91	88
LC mixture E	34	4	0,23	0,07	0,6	90	87



The build up shown in this brochure is a typical buildup which can vary depending on the project requirements.  
Values were calculated according to EN-410 and EN-673.

## TECHNICAL INFORMATION

- eyrise® glass is designed to install in commercial facade systems
- eyrise® glass sizes:  
min. 413 x 413 mm  
max. 1600 x 3500 mm
- Switching speed:  
Variable down to 1 second
- high colour rendering index:  
colours remain neutral over the complete visible light spectrum



11/2023

# DYNAMIC GLAZING, BROUGHT TO YOU BY THE MARKET LEADER IN LIQUID CRYSTAL TECHNOLOGY

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