Welkom!

We starten om 11:01

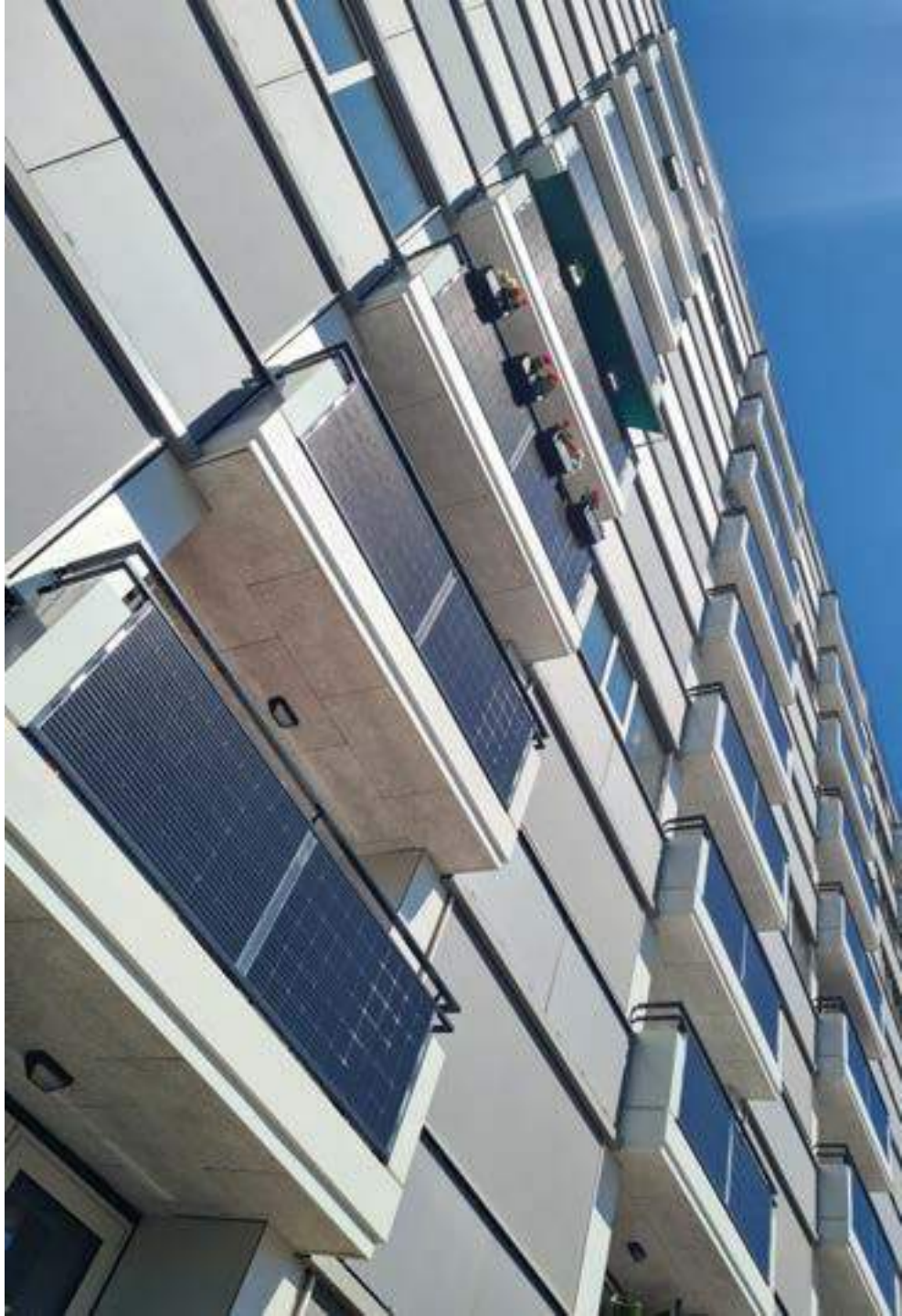
Webinar BIPV

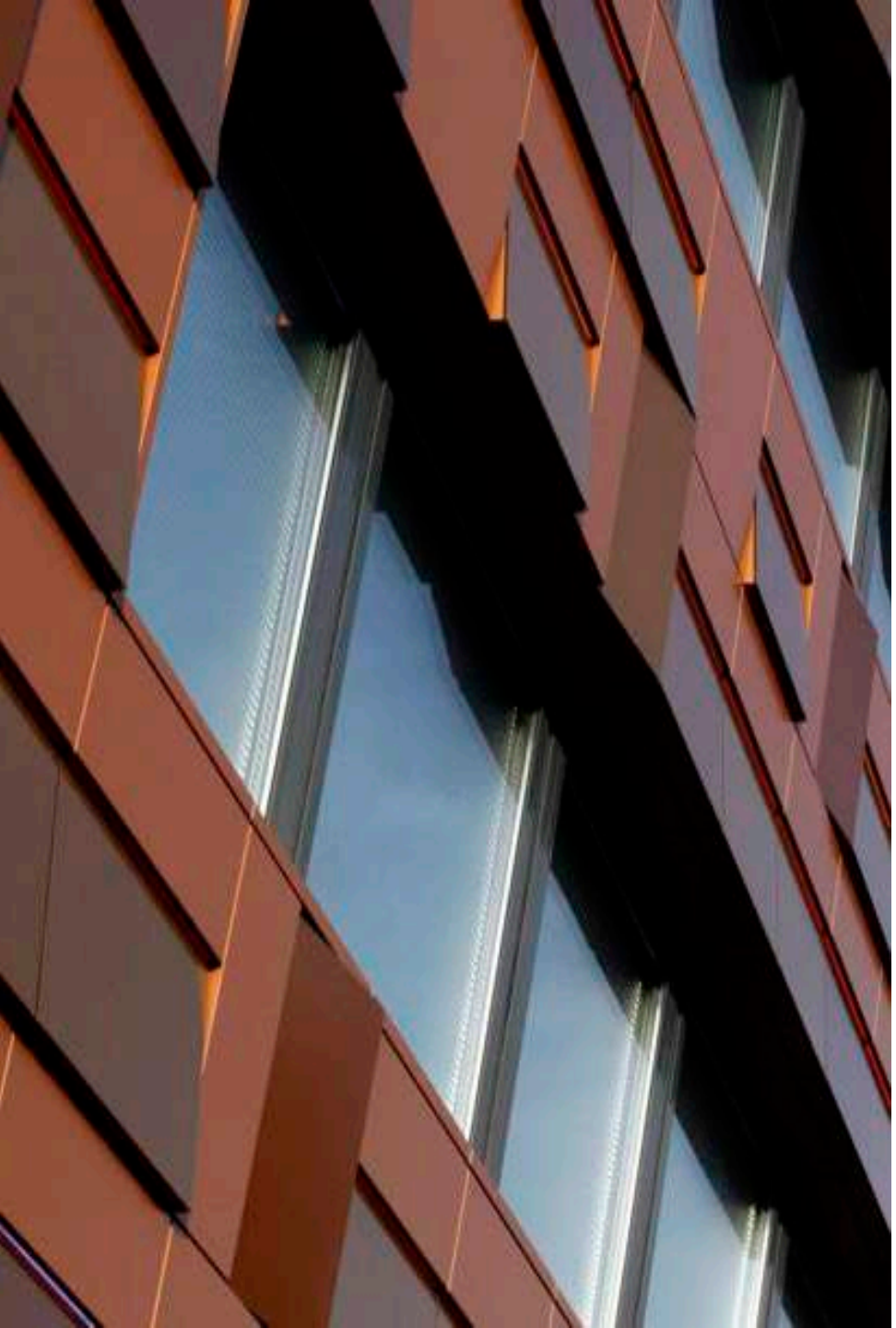
Inspirerende voorbeelden van BIPV projecten en hoe met BIPV aan de slag!

TKI URBAN ENERGY
Topsector Energie

Huishoudelijke mededelingen

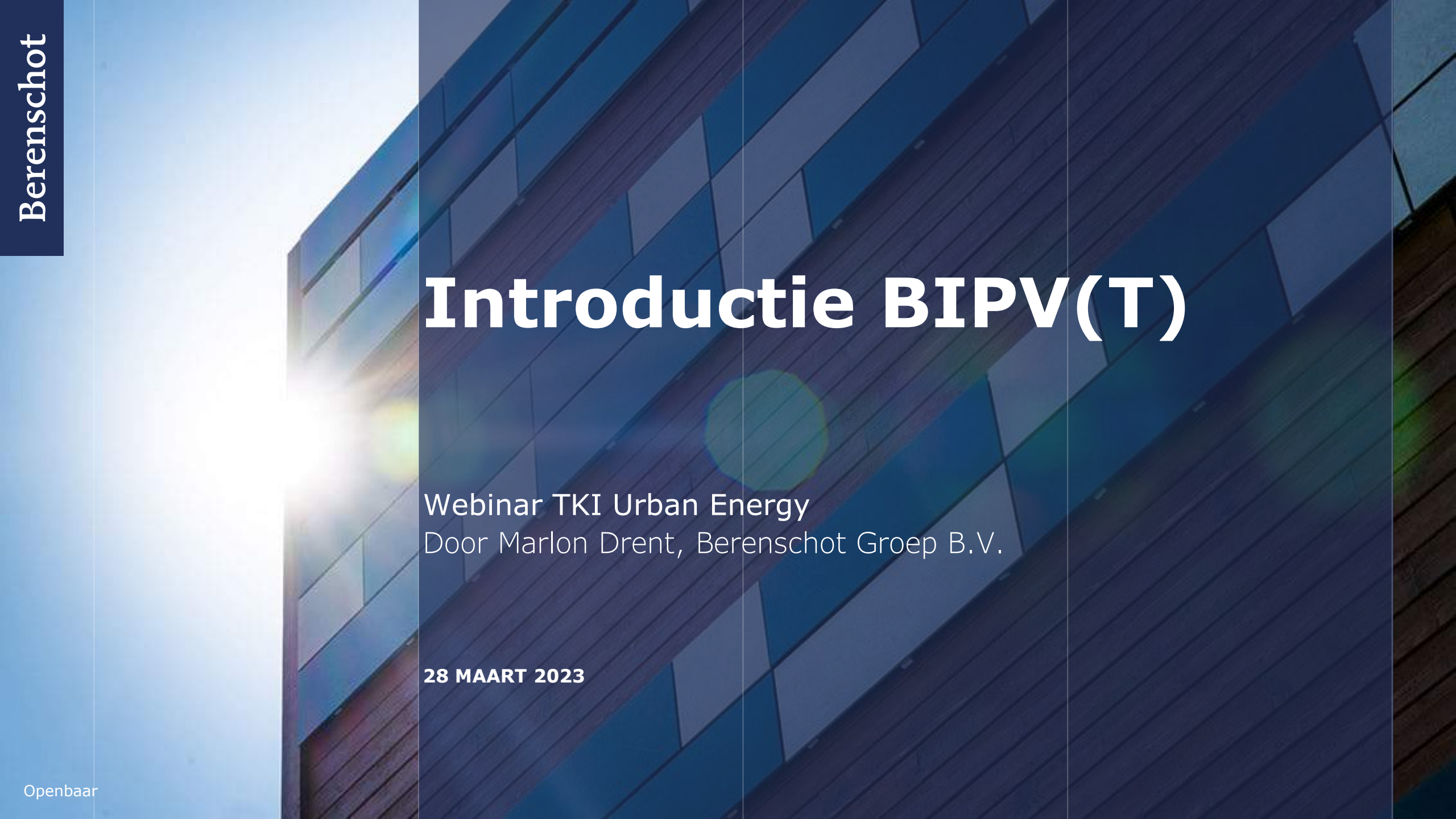
- Vragen kunt u stellen via de Q&A functie, deze worden gedurende het webinar zoveel mogelijk behandeld.
- Gezien het grote aantal deelnemers, staan de microfoons en videocamera’s uit.
- Wij zullen tijdens de uitzending niet reageren op handen die opgestoken worden.
- De presentatie wordt achteraf ter beschikking gesteld
- Dit webinar wordt opgenomen.





Agenda

- Introductie
- Inspirerende voorbeelden
  - Kameleon Solar
  - Studio Solarix
  - Hermans Technisolar
- Hoe kan je aan de slag met BIPV(T)?
  - Solinso
- Vragen en feedback met de pitchers
  - Rondetafel gesprek met pitchers en gebouweigenaren
- Afsluiting



Introductie BIPV(T)

Webinar TKI Urban Energy

Door Marlon Drent, Berenschot Groep B.V.

28 MAART 2023

Waarom BIPV(T)?

Gebouw en energie worden één

- Esthetische eigenschappen
- Energieopwek op daken en gevels
- Dubbele functie in gebouw:
  - Opwek elektriciteit en warmte
  - Zonwering, waterproofing, thermische isolatie, veiligheid

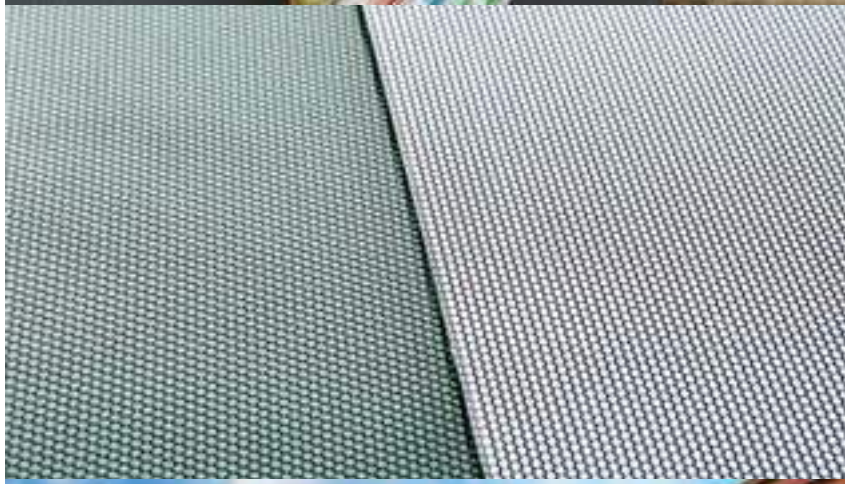
Potentieel van BIPV(T)

- Versnelling verduurzamingsopgave gebouwde omgeving:
  - Hoog- en laagbouw
  - Utiliteitsbouw en residentieel
- Gebouwschil als energiebron: elektrisch en thermisch
- Oplossingen passen in Nederlandse gebouwde landschap
- Combinatie met thermisch/elektrische opslag: optimale energieoogst
- Mogelijke vormen, toepassingen en kleuren van BIPV groeit!
- Kostbare collectieve infrastructuur is niet nodig
- Bijdrage aan Milieuprestatieberekening gebouwen (MPG)

Status techniek

- Diversifiëring: maatvoering, kleuren, texturen, look & feel
- Uitdagingen op gebied van:
  - Modulariteit en uitwisselbaarheid
  - Installatiegemak
  - Standaardisatie van interfaces
  - Capaciteit productiefaciliteiten
  - Samenwerking met bouwkolom
  - Gebrek aan bekendheid BIPV(T)

Goed nieuws: in verschillende consortia wordt hard gewerkt aan product- en marktinnovatie!

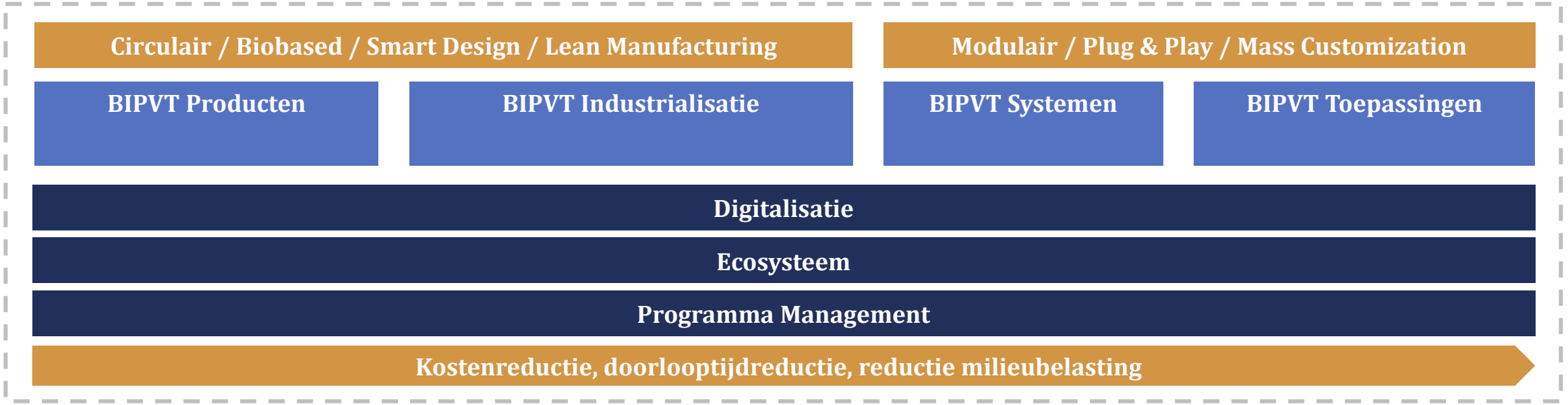


Overzicht NGF BIPVT Scale Up!

Doel: opschalen BIPVT

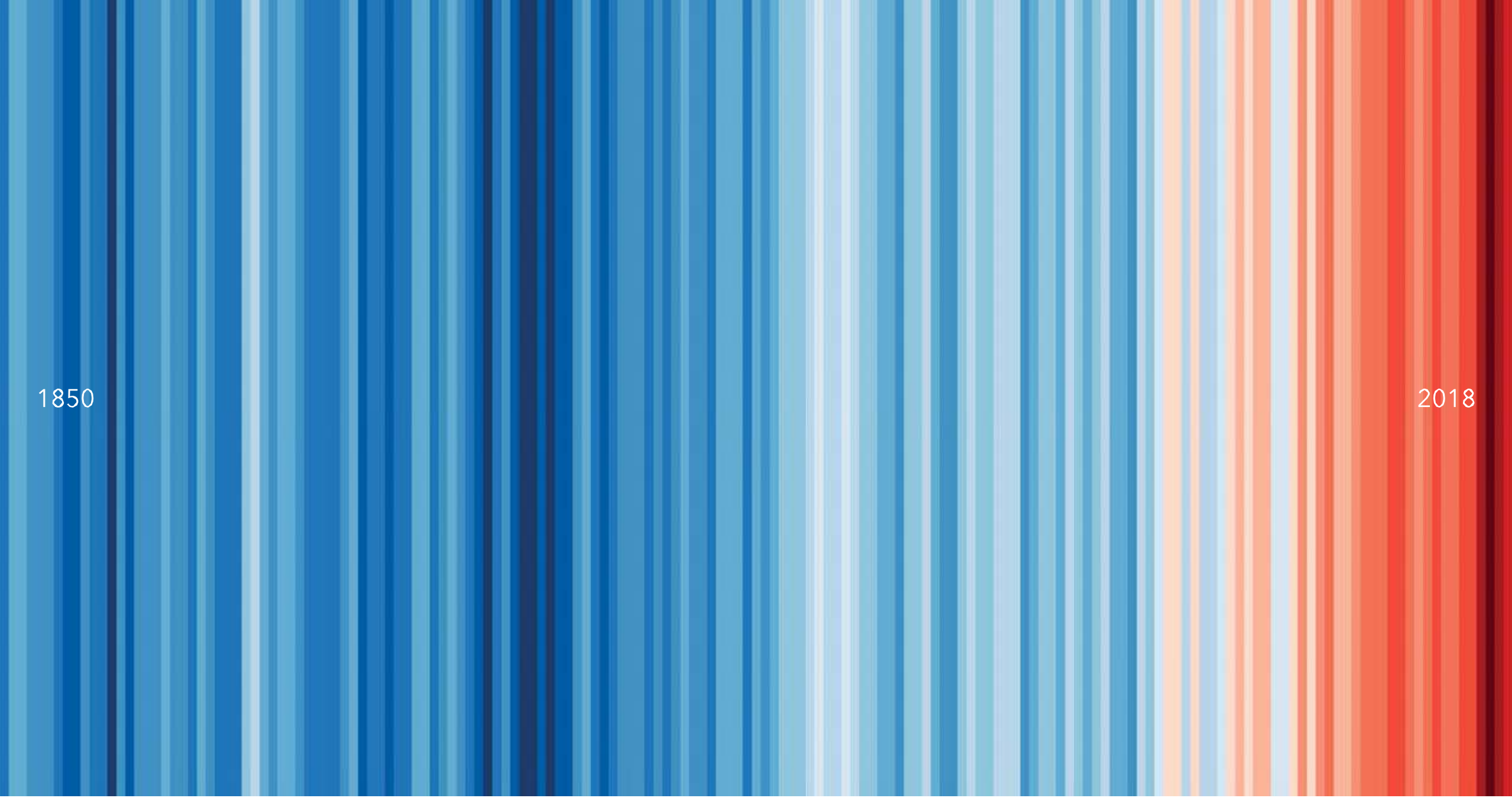
1. Optimaliseren, industrialiseren en standaardiseren van BIPVT systemen en toepassingen
2. Doorontwikkeling van het ecosysteem, ketensamenwerking, data/digitale oplossingen

Scope



Deelname: Interesse om mee te doen? Meld je bij e.teunissen@berenschot.nl


solarix
Wij ontwerpen
en leveren
mooie
zonnepanelen.


1850
2018

De gebouwde omgeving zorgt voor 36%
van alle CO2-uitstoot.

1 M² zonnegevel staat gelijk aan de CO2 opname van 2 bomen!

1 M² zonnegevel voorkomt 1750 kg CO2 in de levensduur!

30x van Amsterdam naar Londen met het vliegtuig
350x met de trein van Amsterdam naar Parijs
30 jaar samen met je collega's zoomen.

Wat als een gebouw een energiebron is?

Why not make this transition a beautiful one.

Team Solarix.

Allround team dat energie creëert

Marloes van Heteren
Co-founder & CEO

Reinier Bosch
Co-founder & Creative director

Jasper Brommet
Business development

Oscar van der Voort
Head product development

Vicky Fasten
CFO

Eefiene Bolhuis
Surface designer

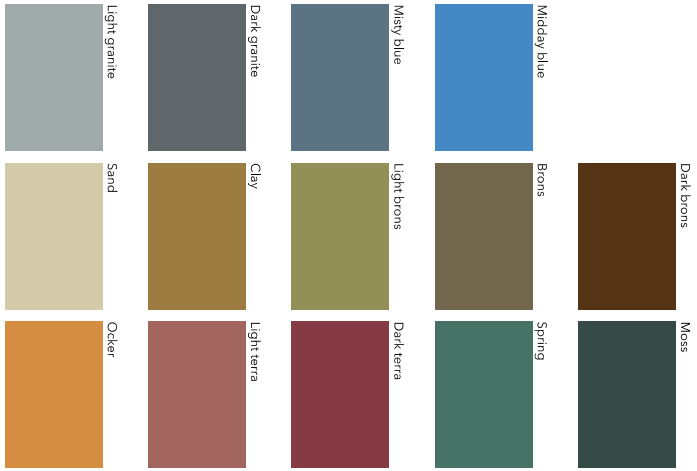
Evert Bende
Solar Engineer

Charley Ebbink
Sales

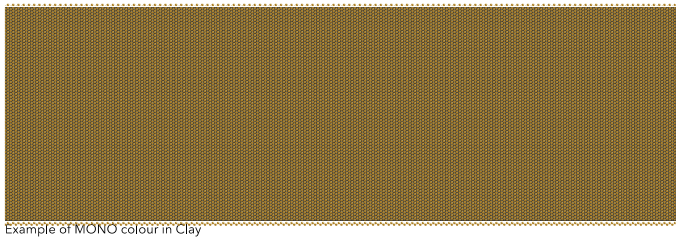
Marius Lazauskas
Technical facade specialist

Solarix colours

Solarix Basic Colours

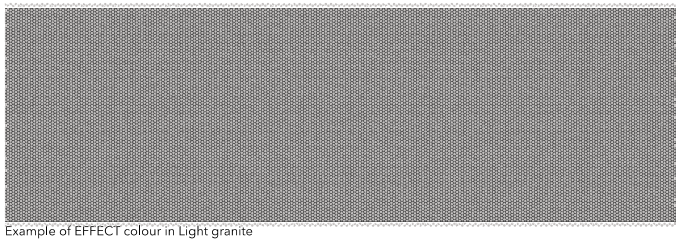


Solarix MONO



Example of MONO colour in Clay

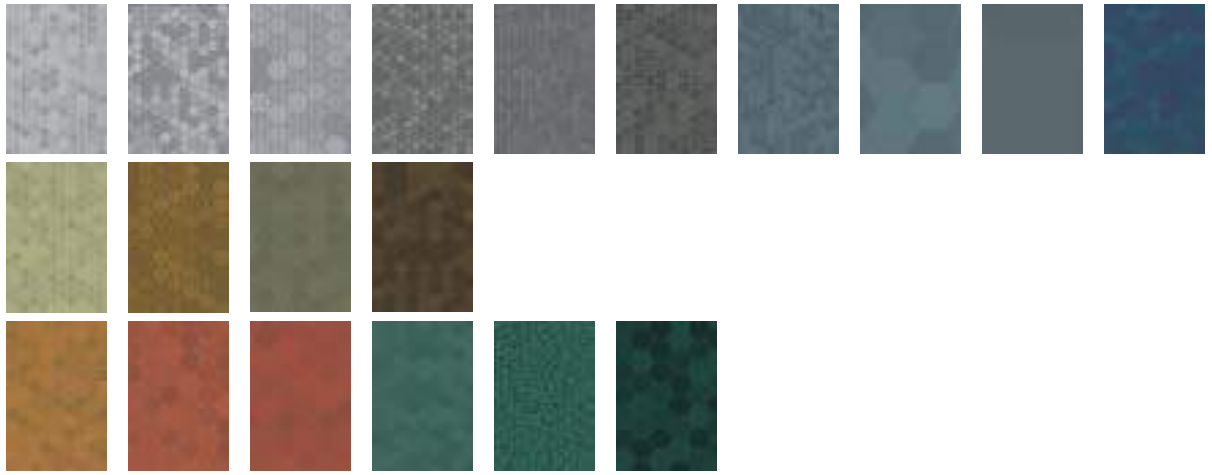
Solarix EFFECT



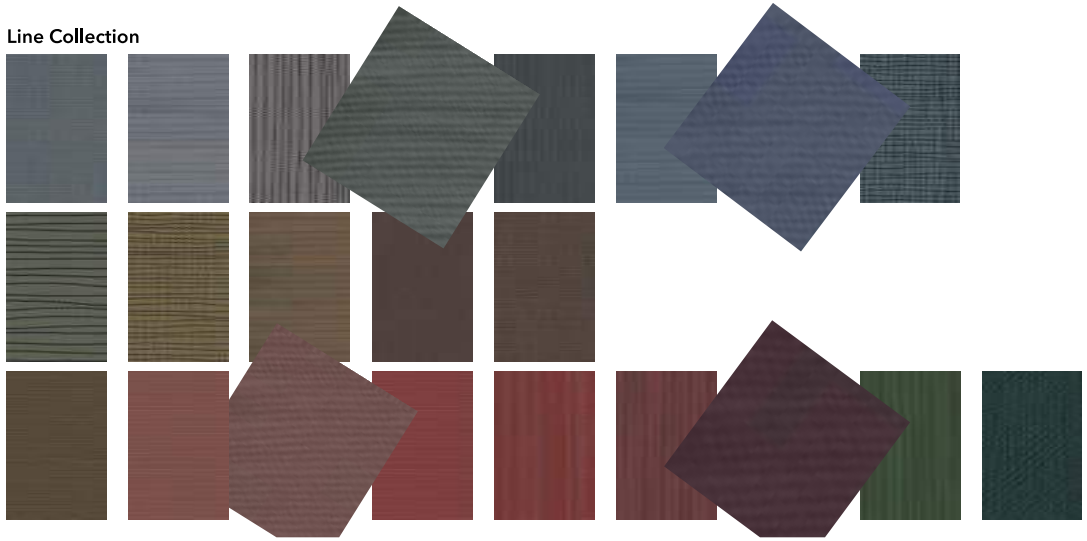
Example of EFFECT colour in Light granite

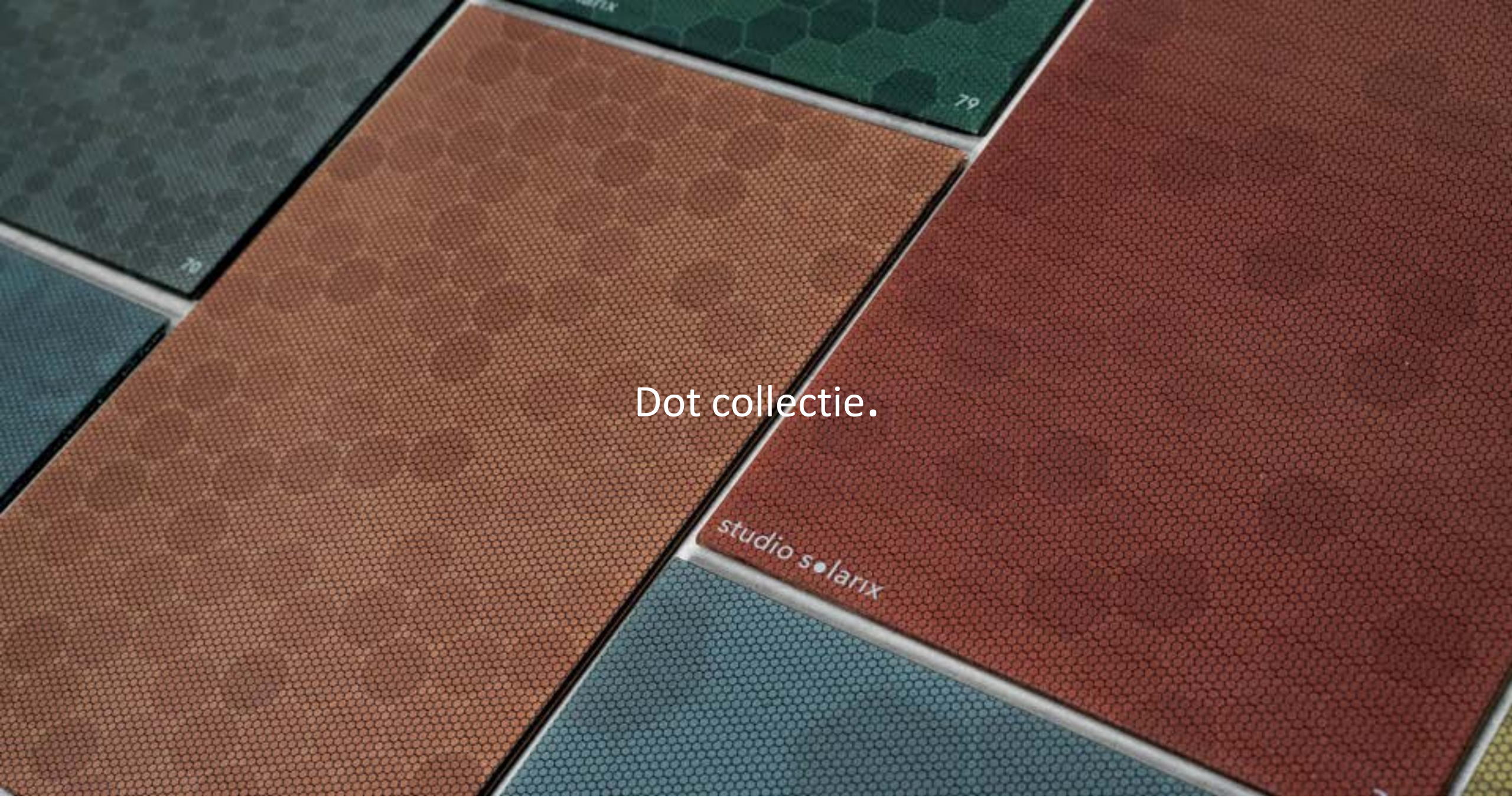
Dot & Line collectie

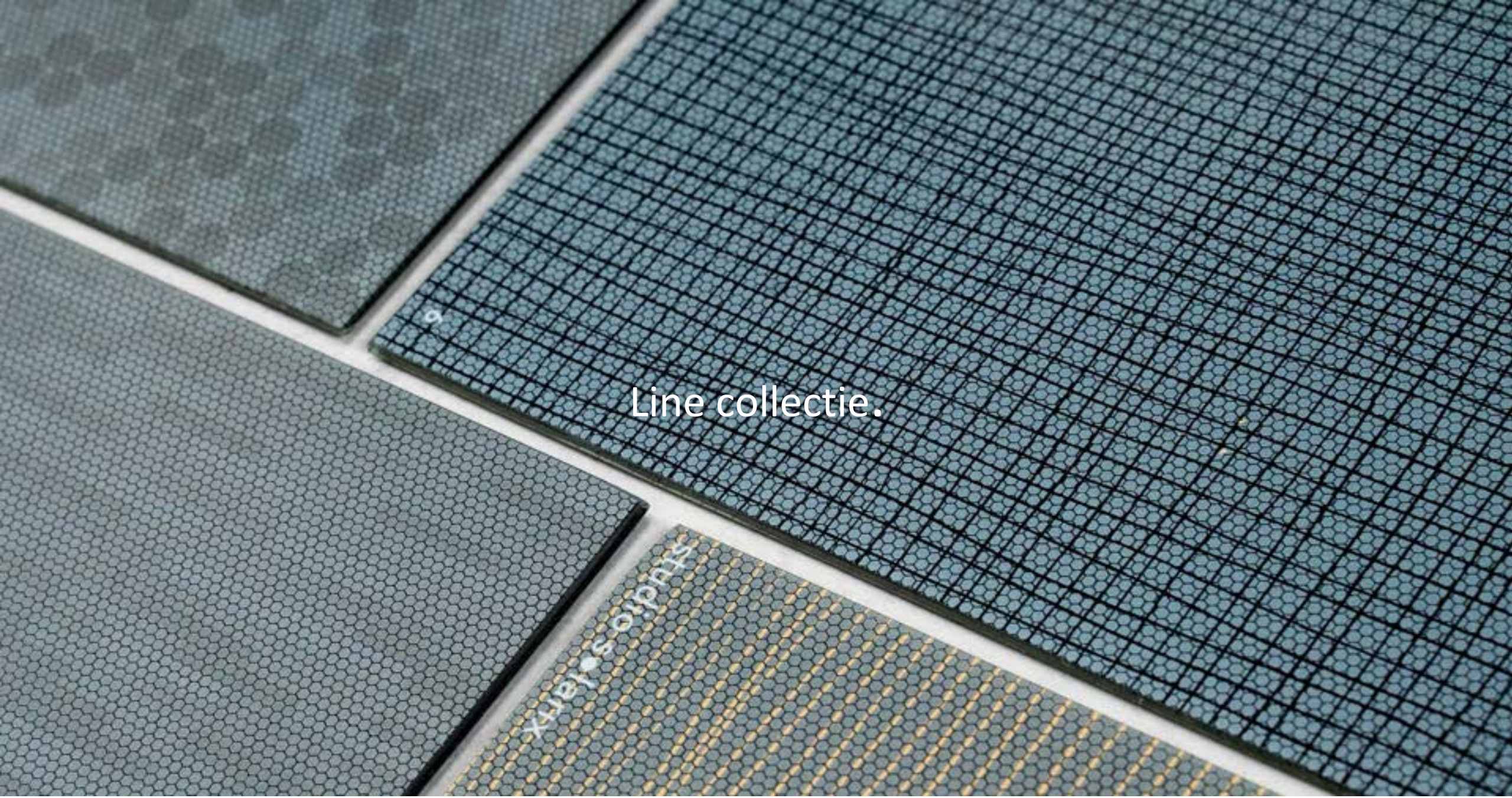
Dot Collection

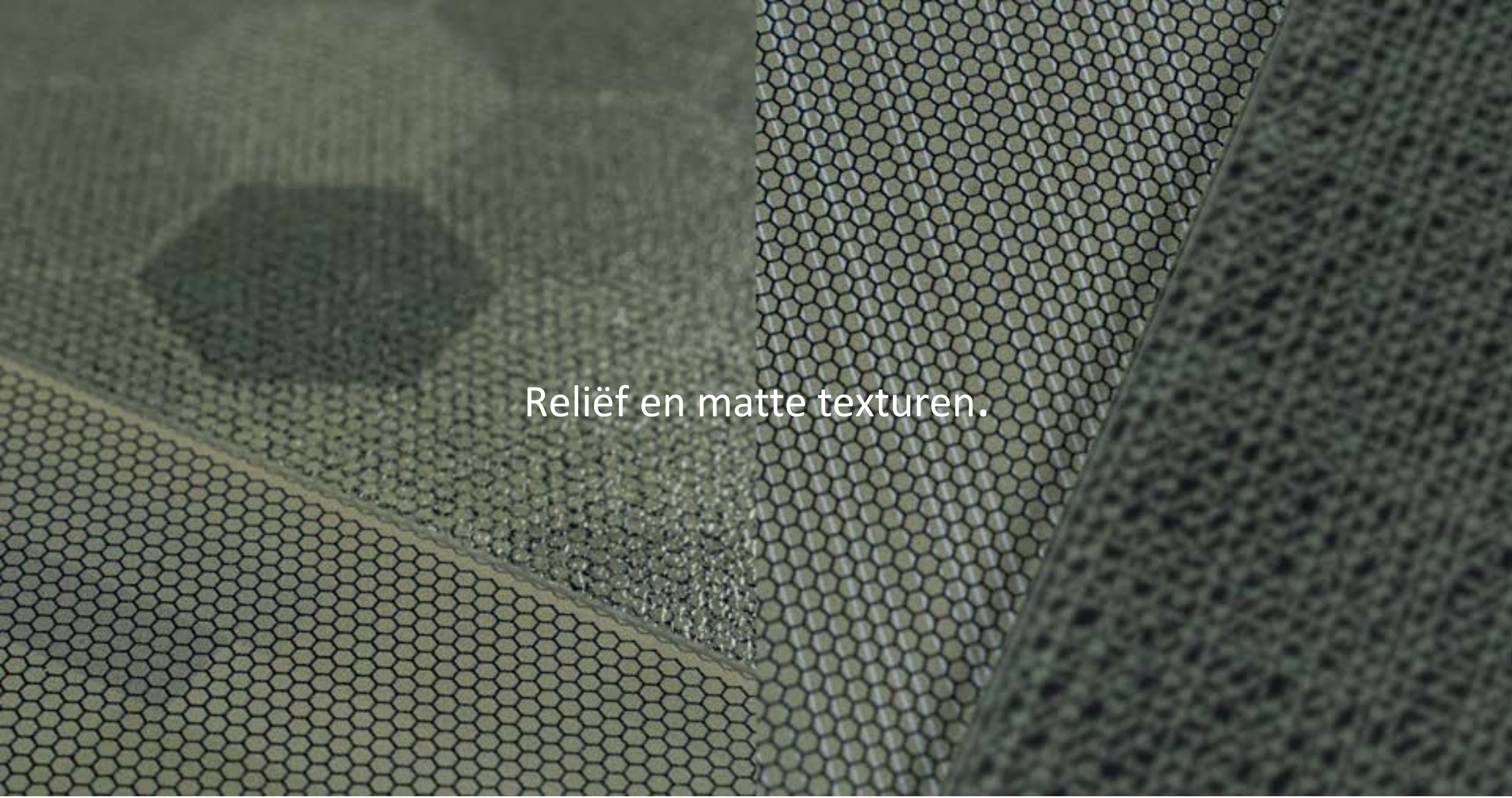


Line Collection




Dot collectie.
studio solarix


Line collectie.


Reliëf en matte texturen.

Solarix gevelpanelen.

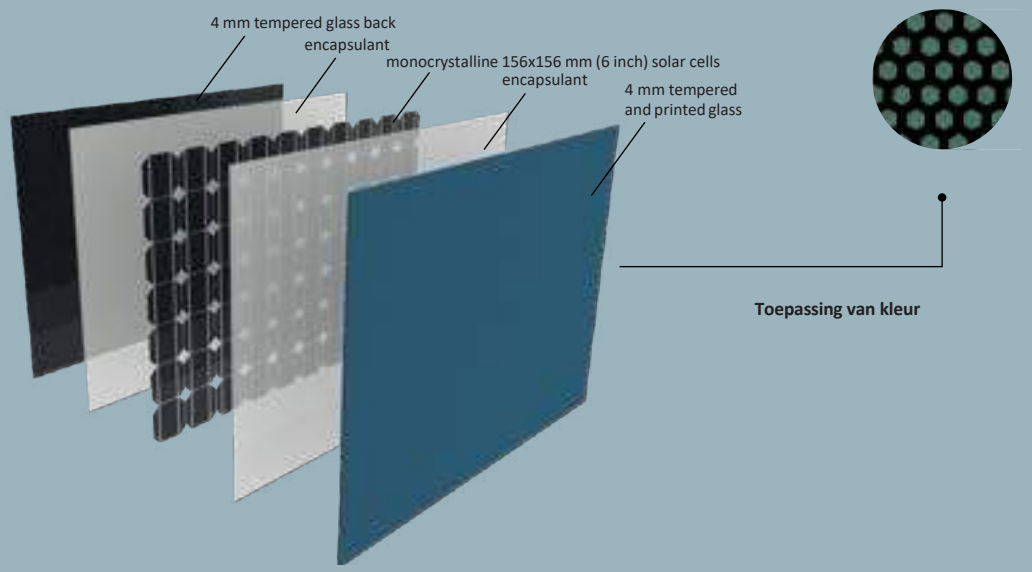
Panelen
- Gekleurde panelen
- Gelamineerd
- Van hoge kwaliteit keramische coating

Garanties
- 25 jaar prestatie garantie (tot 80%)
- 20 jaar productgarantie

Opbrengsten
- 110-180 WP per m² Afhankelijk van de kleur

20-25% minder dan standaard zwarte zonnepanelen

Gewicht
- 22,5 kg per m²



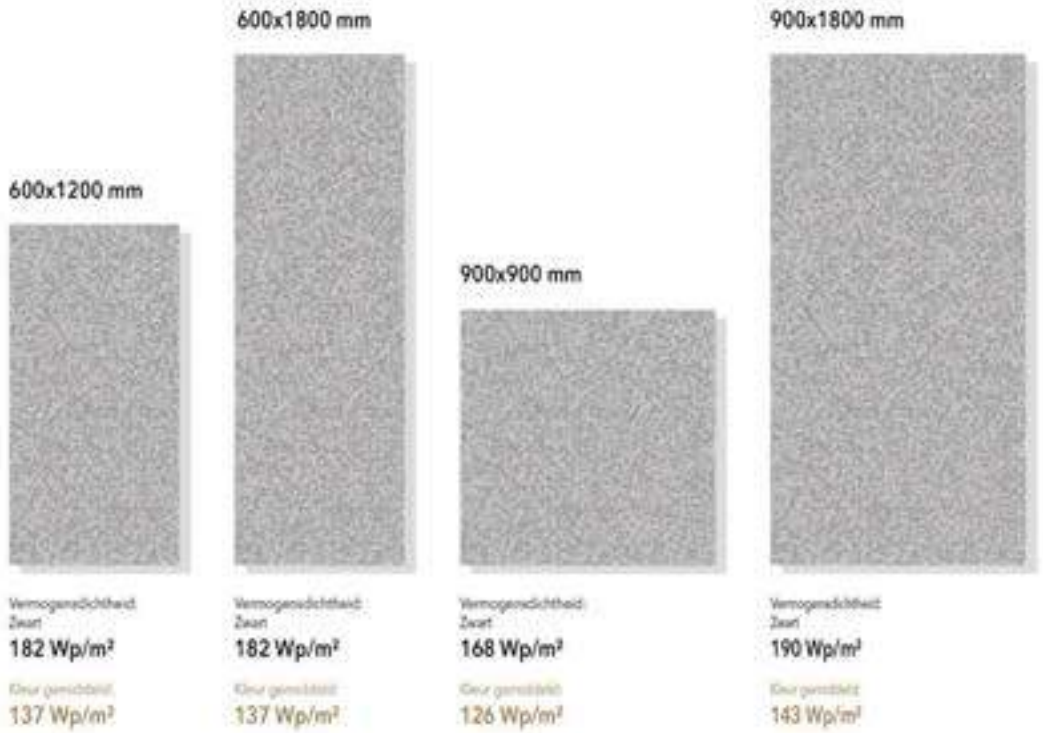
solarix

Standaard en maatwerk

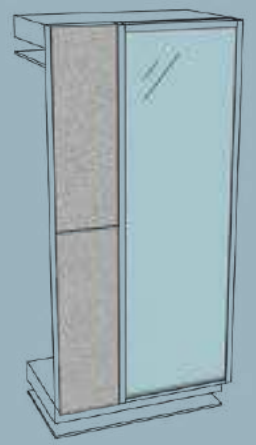
Mogelijkheden
- Verschillende maten beschikbaar
- Diverse kleuren en designs Diverse
- montage mogelijkheden Combinaties
- met andere materialen mogelijk

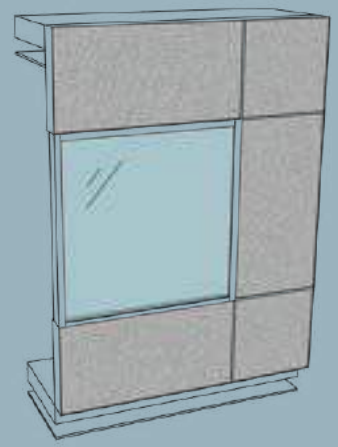
Standaard paneel
590x1190mm

Custom paneel
Minimaal 347 x 1032 mm
Maximaal 1305 x 1993 mm
(groter op verzoek)

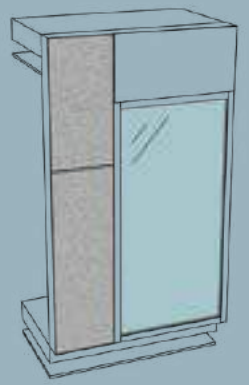


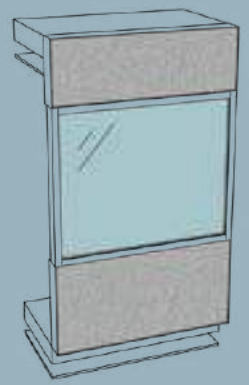
Standard paneel integratie.

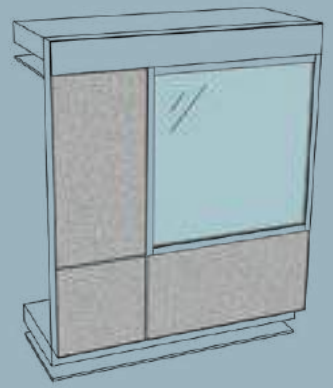


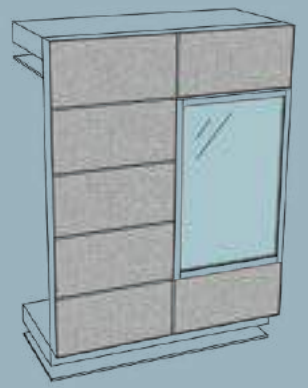


3600 mm
verdieping
hoogte









3000 mm
verdieping
hoogte

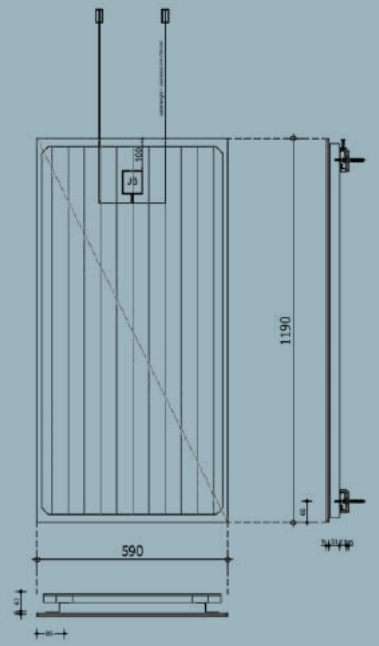
Solarix Montagesysteem.

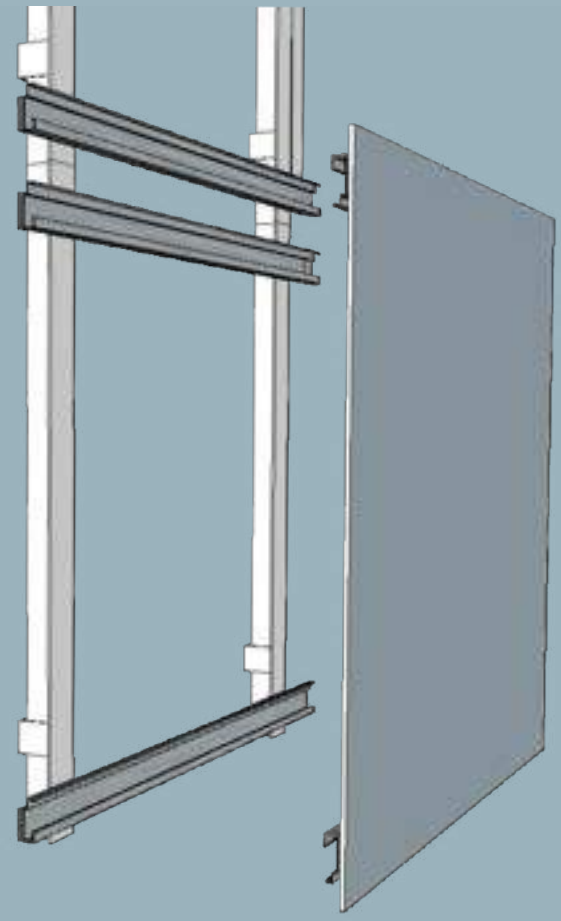
Universeel montagesysteem

Diverse montagemogelijkheden

Plug en play

Eenvoudige bekabeling





Assemblage.

Opdrachten.

Kuijpers

Helmond

Type project:
Herontwikkeling

Status:
Gerealiseerd 2018

Klant:
Kuijpers

M2 Solarix panelen:
89 m²

Geschatte jaarlijks opgewekte energie:
4.500 kWh per jaar

Vergelijking energieverbruik:
1,5 gemiddelde huishoudens

Geschatte jaarlijkse CO2-reductie:
1.940 kg CO2

Is gelijk aan hoeveel bomen:
97 bomen

Pharos Hoofddorp

Type project:
Herontwikkeling

Status:
Gerealiseerd 2020

Klant:
Cairn Real Estate

M2 Solarix panelen:
247 m²

Geschatte jaarlijks opgewekte energie:
13.500 kWh per jaar

Vergelijking energieverbruik:
4,5 gemiddelde huishoudens

Geschatte jaarlijkse CO2-reductie:
5.819 kg CO2

Is gelijk aan hoeveel bomen:
291 bomen

Schouwburg Middelburg

Type project:
Herontwikkeling

Status:
Gerealiseerd 2021

Klant:
Gemeente Middelburg

M2 Solarix panelen:
40 m²

Geschatte jaarlijks opgewekte energie:
3.200 kWh per jaar

Vergelijking energieverbruik:
1,1 gemiddelde huishoudens

Geschatte jaarlijkse CO2-reductie:
1.379 kg CO2

Is gelijk aan hoeveel bomen:
69 bomen

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Buurtboost - Optopper Amsterdam

Type project:
Redevelopment

Status:
Realized 2022

Client:
Vorm

M2 Solarix panels:
14 - 26 m²

Estimated yearly generated energy:
1600 - 3100 kWh per year

Equalled energy use:
1 average households

Estimated yearly CO2 reduction:
700 - 1300 kg CO2

Equals to an amount of:
55 - 66 trees

Van Happen
Eindhoven

+/- 180 m2

Ism. Solarge

solarix

Lichtenberg
Amersfoort

+/- 130 m2

Van Winsen Architecten

DSM Headquarters
Maastricht

+/- 500 m2

solarix

De Kwekerij
Utrecht

+/- 1400 m2

solarix-solar.com

Brainport Smart District
Helmond

+/- 2100 m2

solarix

Staalweg
Delft

solarix-solar.com

Onze activiteiten.

Wij leveren:

- Solarix Solar Design zonnepanelen
- Montage systeem
-

Optioneel:

- SolarCheck
- SolarScan / Engineering
- Design panel

Door derden:

- Installatie en montage
- Monitoring en onderhoud
- Financiering en subsidie

Businesscase.

solarix

PV	Vermogen zwart paneel [Wp/m2]	180
	Verlies PV-systeem	5%
	Lineaire degradatie PV modules	0,55%
	Levensduur PV modules	35

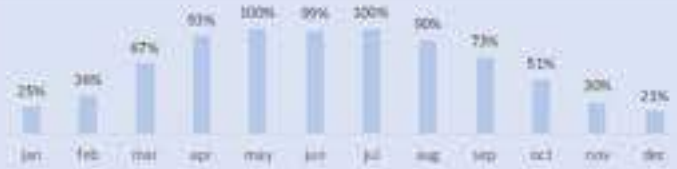
Gevel		Oriëntatie [deg]	Oriëntatie	PV oppervlakte [m2]	Ontwerp transparantie	Energie opbrengst [kWh/yr]	Vermogen [Wp/m2]	Vermogen [kWp]	Specifieke energie opbrengst [kWh/kWp/yr]
	Gevel 1	55	North-East	137	75%	6.561	135	18,5	355
	Gevel 2	145	South-East	151	75%	15.952	135	20,4	783
	Gevel 3	235	South-West	153	75%	15.813	135	20,7	756
	Gevel 4	325	North-West	151	75%	6.587	135	20,4	323
	Totaal			**592**		**44.712**		**79,9**	

Financieel		
	Elektriciteit prijs [Euro/kWh]	0,50
	Inflatie	5%

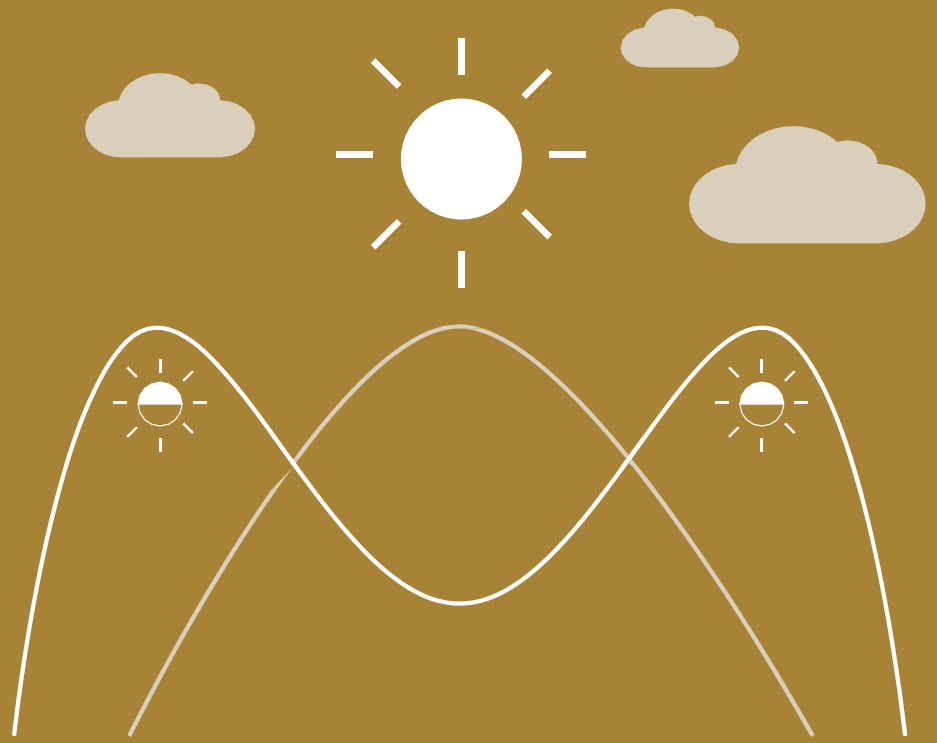
Kosten		Solarix PV Gevel		Solarix non-PV gevel		Kosten voor opwek energie[Euro/m2]	
		Kosten [Euro/m2]	*Totale Kosten [Euro]*	*kosten [Euro/m2]*	*kosten [Euro]*	*Kosten [Euro/m2]*	*Kosten [Euro]*
	PV modules Solarix	300	177.600				
	Montage materialen Solarix	150	88.800				
	Montage kosten derde partij		-				
	E-installatie kosten derde partij		-				
	Totale project kosten	**450**	**266.400**	**200**	**118.400**	**250**	**148.000**

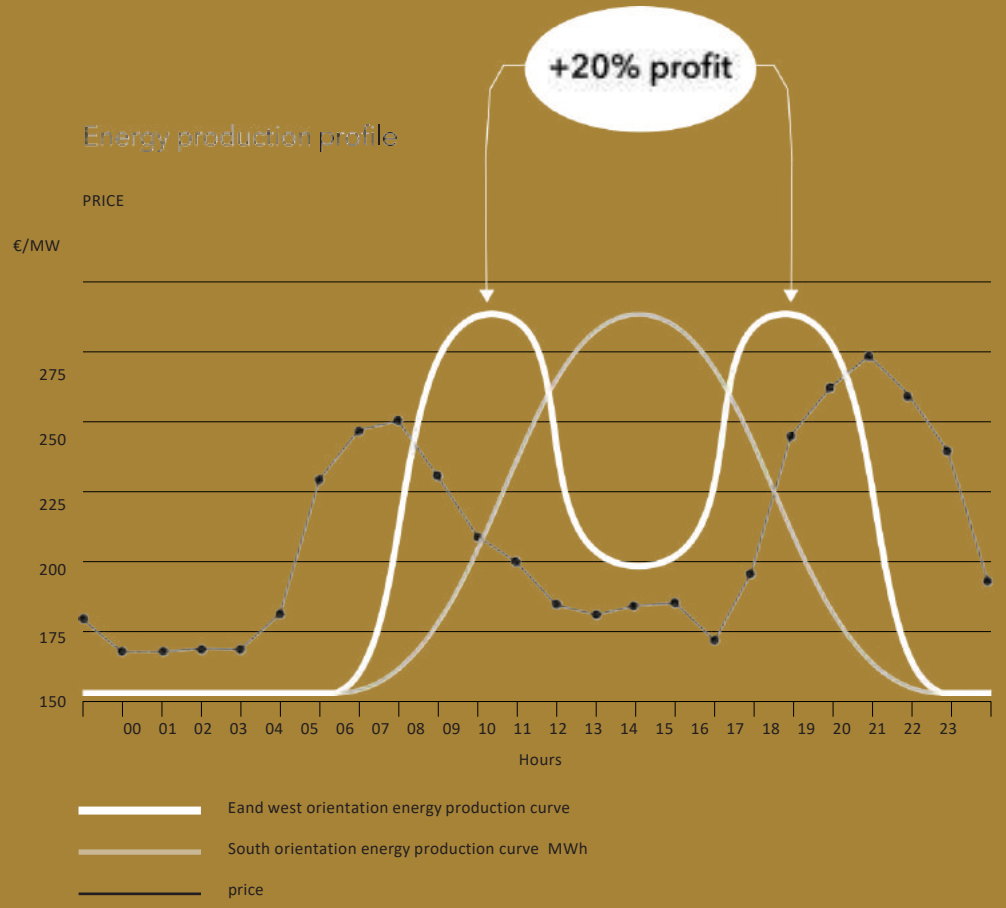
Financiele winst		
	Bespaarde elektriciteit kosten [Eur]	1.877.247
	Winst [Eur]	1.729.247
	Terugverdientijd [Jr]	6,0

Klimaat winst		
	Bespaarde uitstoot [kg]	1.164.000
	Energie gelijk aan [# Huishoudens]	15
	CO2 reductie gelijk aan [# bomen]	1.430



Energieproductie gedurende de dag.





Vragen?

KameleonSolar

THE ART OF SOLAR

Eindeloze ontwerpmogelijkheden met
maatwerk gekleurde zonnepanelen
voor mooie zonnegevels.

Projecten



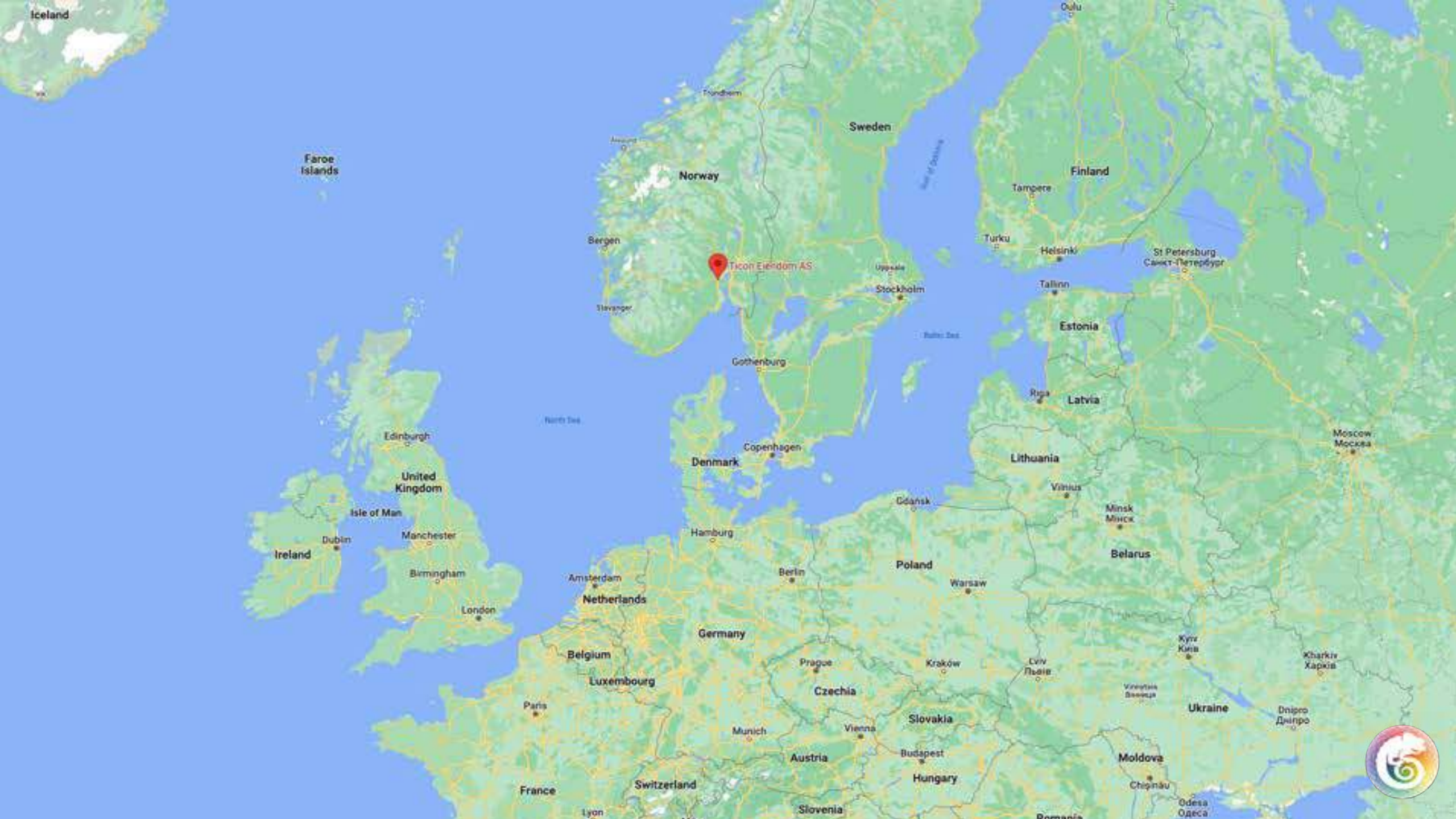


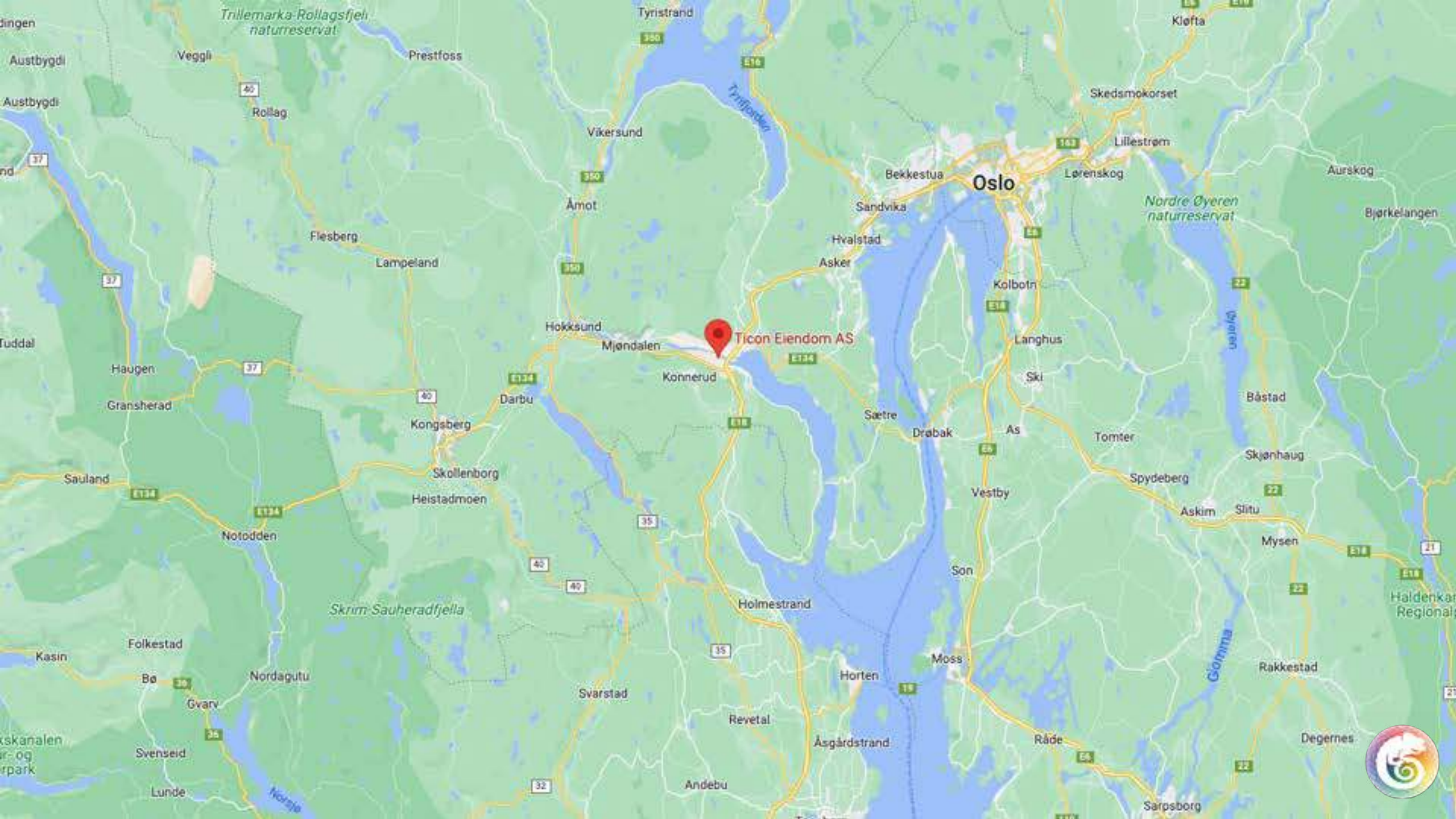


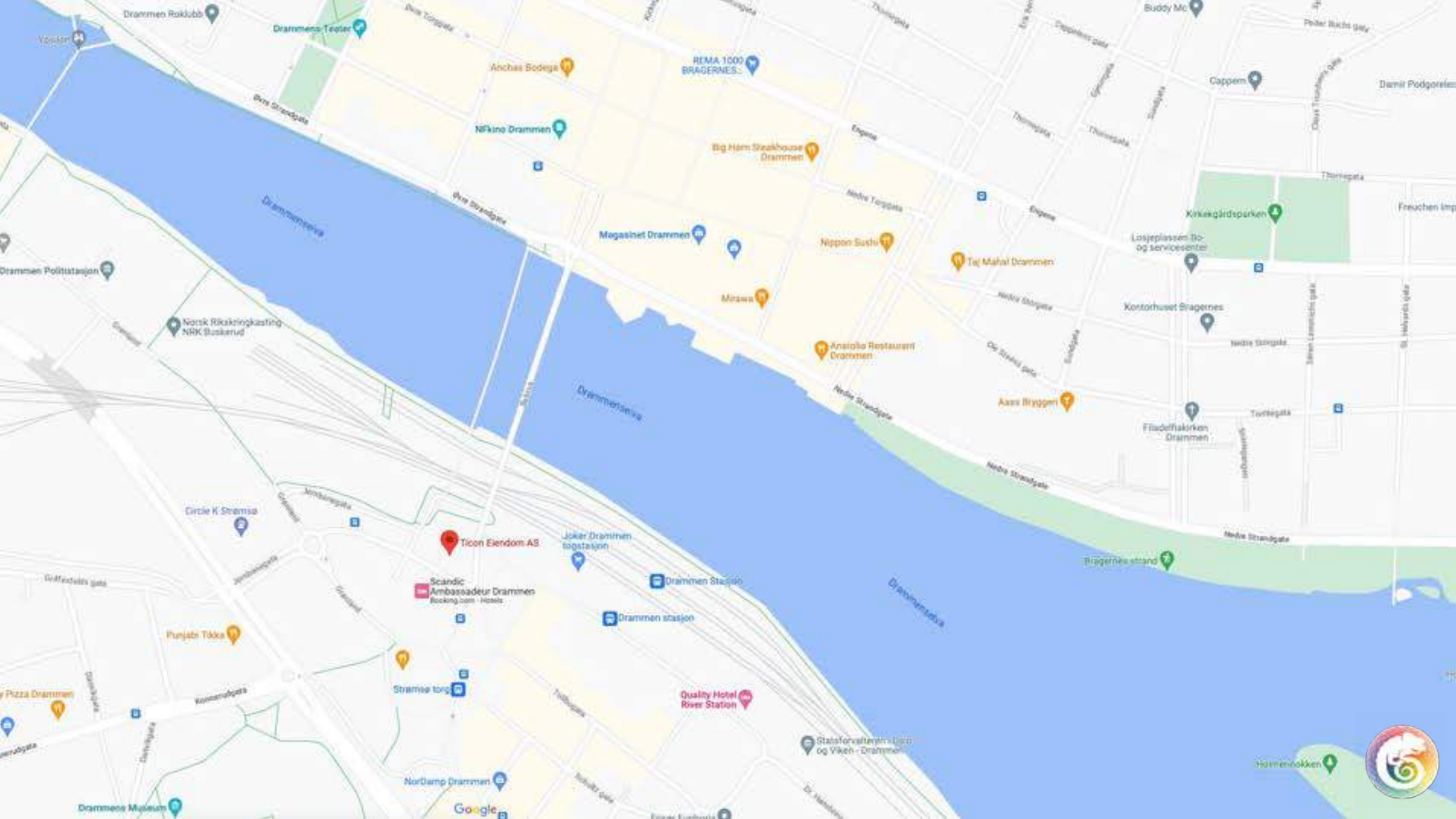


Projecten

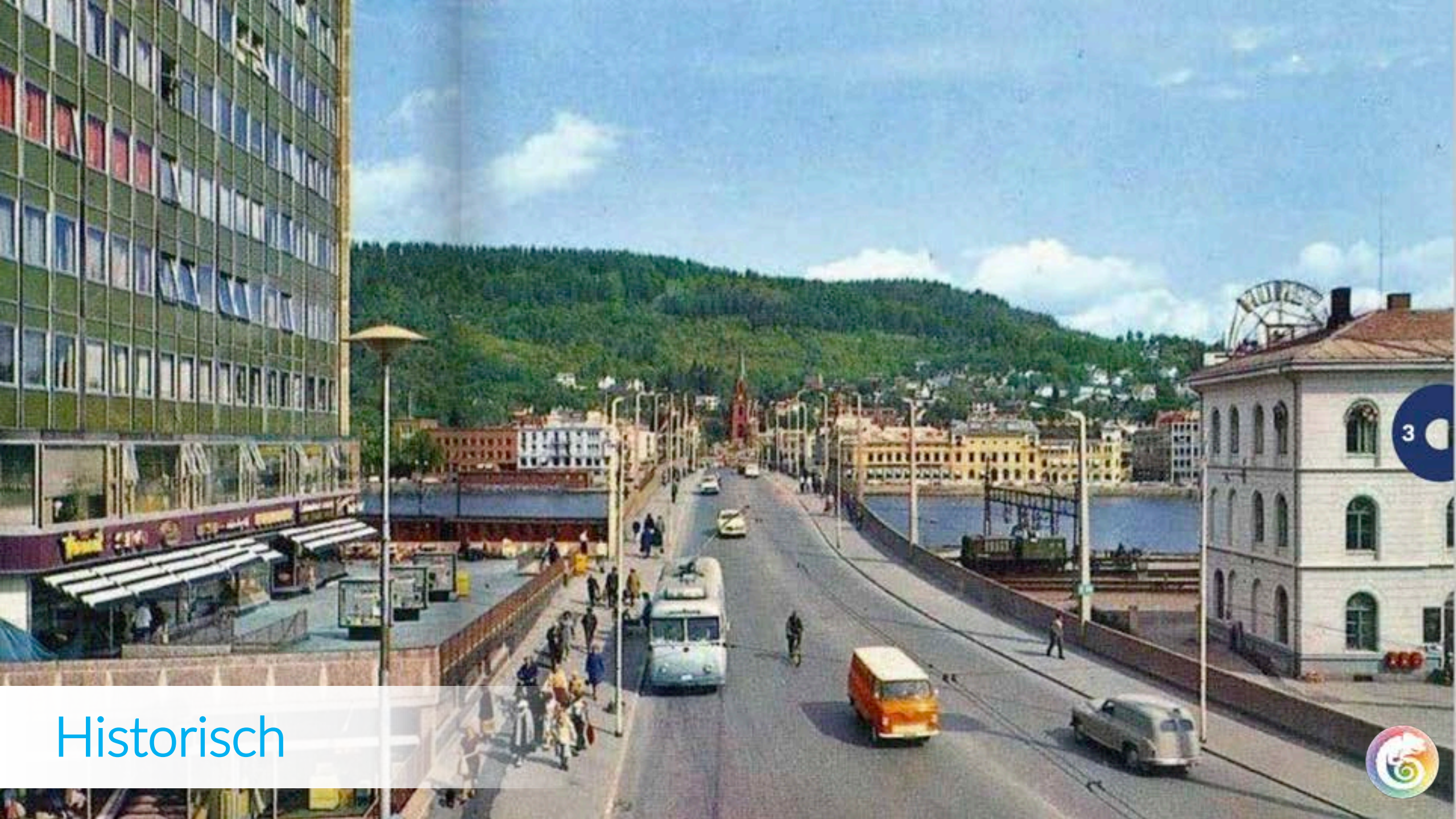
Ticon - Drammen


Iceland
Faroe Islands
Norway
Sweden
Finland
Trondheim
Bergen
Stavanger
Tycon Eiendom AS
Uppsala
Stockholm
Oulu
Tampere
Turku
Helsinki
St Petersburg
Санкт-Петербург
Tallinn
Estonia
Latvia
Riga
Gothenburg
North Sea
Baltic Sea
Edinburgh
United Kingdom
Isle of Man
Dublin
Ireland
Manchester
Birmingham
London
Copenhagen
Denmark
Lithuania
Vilnius
Moscow
Москва
Gdańsk
Minsk
Минск
Belarus
Hamburg
Berlin
Poland
Warsaw
Amsterdam
Netherlands
Germany
Belgium
Luxembourg
Paris
Prague
Czechia
Kraków
Lviv
Львів
Kyiv
Київ
Kharkiv
Харків
Ukraine
Dnipro
Дніпро
Slovakia
Munich
Vienna
Austria
Budapest
Hungary
Moldova
Chișinău
Switzerland
France
Lyon
Slovenia
Odesa
Одеса


Ticon Eiendom AS
Oslo
Tyristrand
Kløfta
Trillemarka-Rollagsfjell naturreservat
Veggli
Prestfoss
Austbygdi
Rollag
Tyrifjorden
Skedsmokorset
Lillestrøm
Bekkestua
Lørenskog
Aurskog
Vikersund
Åmot
Sandvika
Nordre Øyeren naturreservat
Bjørkelangen
Flesberg
Lampeland
Hvalstad
Asker
Kolbotn
Hokksund
Mjøndalen
Langhus
Tuddal
Haugen
Konnerud
Ski
Gransherad
Darbu
Kongsberg
Sætre
Drøbak
As
Båstad
Tomter
Skjønhaug
Sauland
Skollenborg
Heistadmoen
Spydeberg
Vestby
Askim
Slitu
Notodden
Mysen
Son
Holmestrand
Skrim Sauheradfjella
Folkestad
Kasin
Moss
Bø
Nordagutu
Horten
Rakkestad
Svarstad
Gvarv
Revetal
Degernes
Svenseid
Åsgårdstrand
Råde
Lunde
Andebu
Sarpsborg


Drammen Roklubb
Drammens Teater
Anchas Bodega
REMA 1000 BRAGERNES
Buddy Mc
Cappern
Damir Podgorelec
Peder Bachs gate
Øvre Strandgate
NFkino Drammen
Big Horn Steakhouse Drammen
Eiganes
Thorvegata
Kirkegårdsparken
Frøuchen Imp
Drammenselva
Magasinet Drammen
Nippon Sushi
Taj Mahal Drammen
Losjeplassen Bo- og servicesenter
Drammen Politistasjon
Mirawa
Kontorhuset Bragernes
Nedre Storgate
Norsk Rikskringkasting NRK Buskerud
Anatolia Restaurant Drammen
Aass Bryggen
Filadelfiakirken Drammen
Tordalsgata
Nedre Strandgate
Circle K Strømsø
Jernbanegata
Ticon Eiendom AS
Joker Drammen togstasjon
Bragernes strand
Scandic Ambassadeur Drammen
Booking.com - Hotels
Drammen Stasjon
Drammen stasjon
Punjabi Tikka
Strømsø torg
Kongsgata
Quality Hotel River Station
Statsforvalteren i Oslo og Viken - Drammen
Hammerbakken
NorDamp Drammen
Drammens Museum
Google


Google



Historisch

Missie 2015

- Renovatie
- Aangezicht moet hetzelfde blijven (welstand)
- 60% energiereductie
- Duurzame materialen
- Duurzaam bouwen

Voor

Na

2-dubbel glas

Elektrochroom glas

ColorBlast® borstwering

Resultaat

- Renovatie
- Goedgekeurd aangezicht
- 100% energiereductie
- Energiepositief gebouw
- 80% totale energieverschil uit de gevel

- Recycled aluminium
- Prefab gebouwd

VIRTUe

BIPVT

SUM

Meerkleurig ontwerp

De Titaan

Ode aan het verleden

Dank voor jullie aandacht

Gratis A4 sample

KameleonSolar

Vragen?

KameleonSolar

THE ART OF SOLAR

Eindeloze ontwerpmogelijkheden met
maatwerk gekleurde zonnepanelen
voor mooie zonnegevels.

Introduction to Hermans Technisolar

Our values

The foundation of our business is quality, from our high-quality products to our excellent customer service. With every project, we work with you to select the right products. We build a comprehensive project plan that considers production, logistics, and stock possibilities. Three core values help us achieve quality: Sustainability, Partnership, and Performance.

Sustainability

Sustainability is the driving force behind every product and business decision we make. Every product we design, manufacture and install supports sustainable construction.

Partnership

Over the past 30 years, we have forged long-standing relationships with our clients. Several their upcoming projects rely on our delivery, quality and technology track record.

Performance

A portfolio of our products offers unmatched sustainability and performance. Our turnkey team ensures efficient and effective delivery of our products every single time.

Who are Hermans Technisolar?

Hermans Technisolar
CUSTOM-MADE SOLAR SOLUTIONS

Using renewable energy, technisolar systems enhance the performance of a building. With our high-performance solar products, we contribute to a building's energy efficiency while enhancing its exterior aesthetics. Our products contribute to sustainable communities by combining high-quality aesthetics with energy generation.

hermanstechnisolar.nl info@hermanstechnisolar.nl T: +31 (0)10 - 5241007

Our approach to solar panel solutions

Architects, contractors, and building owners can rely on Hermans Technisolar for guidance during the design, construction, and maintenance stages. To ensure that our products meet the specifications of every project, we collaborate closely with the customer.

Design

Hermans Technisolar can work with architects, contractors or building owners to design and specify the most effective products for the application.

Service & Maintenance

We have a dedicated after-sales service which provides expert maintenance assistance.

High performing products

We provide a wide range of high-quality solar products for on-grid and off-grid applications. Integrating solar energy into buildings or products, whether bespoke or standard, requires no compromise.

Powerglaz

Powerglaz contains laminated solar cells and can be custom made with a variety of forms and effects. Powerglaz panels can replace conventional building components such as atria, roofs, canopies, and cladding. Additionally, they can be used to charge batteries and generate electricity for off-grid applications.

Pixasolar

Pixasolar are coloured Powerglaz panels that can be screen printed to make a colour-coordinated statement. From block colours to distinctive patterns and company logos, Pixasolar uses the most advanced digital printing technology with high printing accuracy and dimensional flexibility.

Standard PV

We offer Standard PV solar panel systems to the residential, commercial and logistical markets. Using high-quality and proven products, we install them via fully certified fitters to meet your requirements.

Q Glass

Q Glass is the first and only global solution which simultaneously generates free electricity from the sun while reducing harmful UV and IR radiation. It delivers good light transmission parameters and maintains a high coefficient of thermal insulation.

Applying Technisolar products

With our high-quality solar panels, you can enhance energy efficiency and reduce running costs across a wide range of applications.

Architects and developers specify Technisolar products in commercial and residential projects, ranging from new construction to refurbishment and modernisation. The use of sustainable solar panels in educational facilities is also becoming increasingly popular.

The manufacturing industry is focused on sustainability, with many businesses seeking ways to improve their business practices to meet sustainability goals. As a result, Technisolar products are used in numerous manufacturing sectors.

Our products are also useful for agricultural applications. Hydroponic farming applications and greenhouses can benefit from the natural heating, lighting, and energy provided by Technisolar panels for better harvests.

Sustainability is in our DNA

Hermans Technisolar’s bespoke products achieve unrivalled sustainable energy generation and are designed according to strong architectural values. This enables us to provide the global construction industry with sustainable energy-generating technologies that improve environmental performance.

As a leading supplier of high-performance solar products, Hermans Technisolar can make a real difference to the efficiency and sustainability of developments and refurbishments.

Case study

The Cloud, Amsterdam

Brief

Impact Vastgoed has transformed The Cloud into an innovative, modern, and future-proof office building. During the construction of the building, Hermans Technisolar was contracted to provide solar panels for energy efficiency.

Solution

With a total installed capacity of 35 kWp, Hermans Technisolar supplied customised and insulated Powerglaz panels for the atrium. A transparent and open atrium is created by the BIPV panels covering the original courtyard.

Result

Powerglaz solar panels contributed to a BREEAM ‘Very Good’ rating, and the new atrium is a focal point at the heart of the building.

Case study

Fastned, Europe

Brief

Fastned uses solar and wind energy to build fast-charging stations for all-electric cars, enabling drivers to drive freely. Fastned approached Hermans Technisolar to supply solar panels for its new stations in the Netherlands and abroad.

Solution

For the new Fastned stations, Hermans Technisolar supplied customised, semi-transparent Powerglaz panels. Fastned charging stations have a unique appearance due to the special shape of their panels, and the chosen cell layout of the Powerglaz panels.

Result

As a result of Hermans Technisolar's partnership with Fastned, the company was able to make fast-charging stations more accessible to people, encouraging them to switch to electric cars.

Case study

Lab 42, Amsterdam

Brief

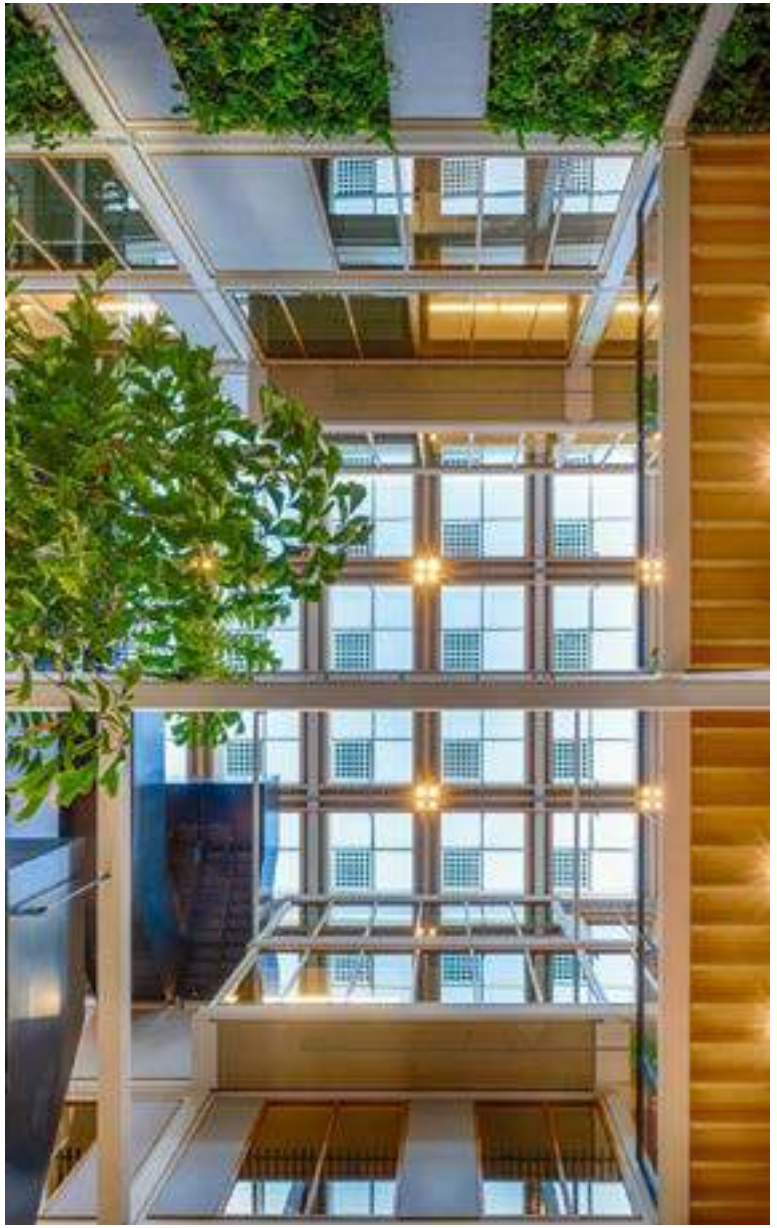
LAB 42 is the new hub for the development of talent in the field of Digital Innovation and Artificial Intelligence (AI). The development will facilitate partnerships between students, researchers, and businesses. Hermans Technisolar was approached to help deliver a sustainable solution that provided solar energy without sacrificing architectural creativity.

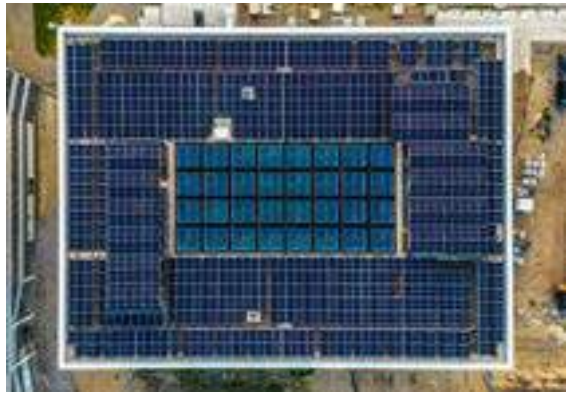
Solution

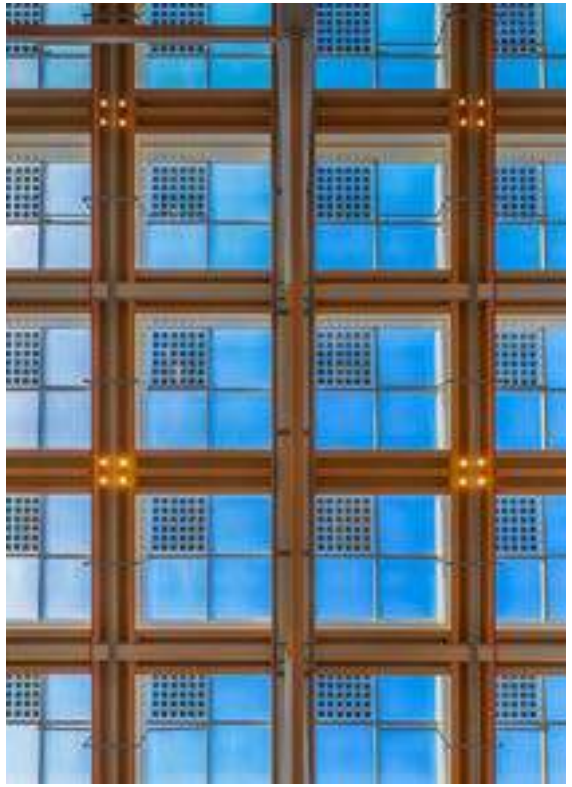
Hermans Technisolar distributed a solution that included over 32 active PowerGlaz solar panels that are expected to achieve an annual yield of approximately 4,800 kWh.

Result

The Hermans Technisolar system was fully integrated into the roof of the building to allow for light management and control over internal heat distribution. As a result, the architect and client were able to keep to the cutting-edge aesthetics of the project while incorporating a solar energy solution.







Case study

Fridtjof Nansen School, Rotterdam

Brief

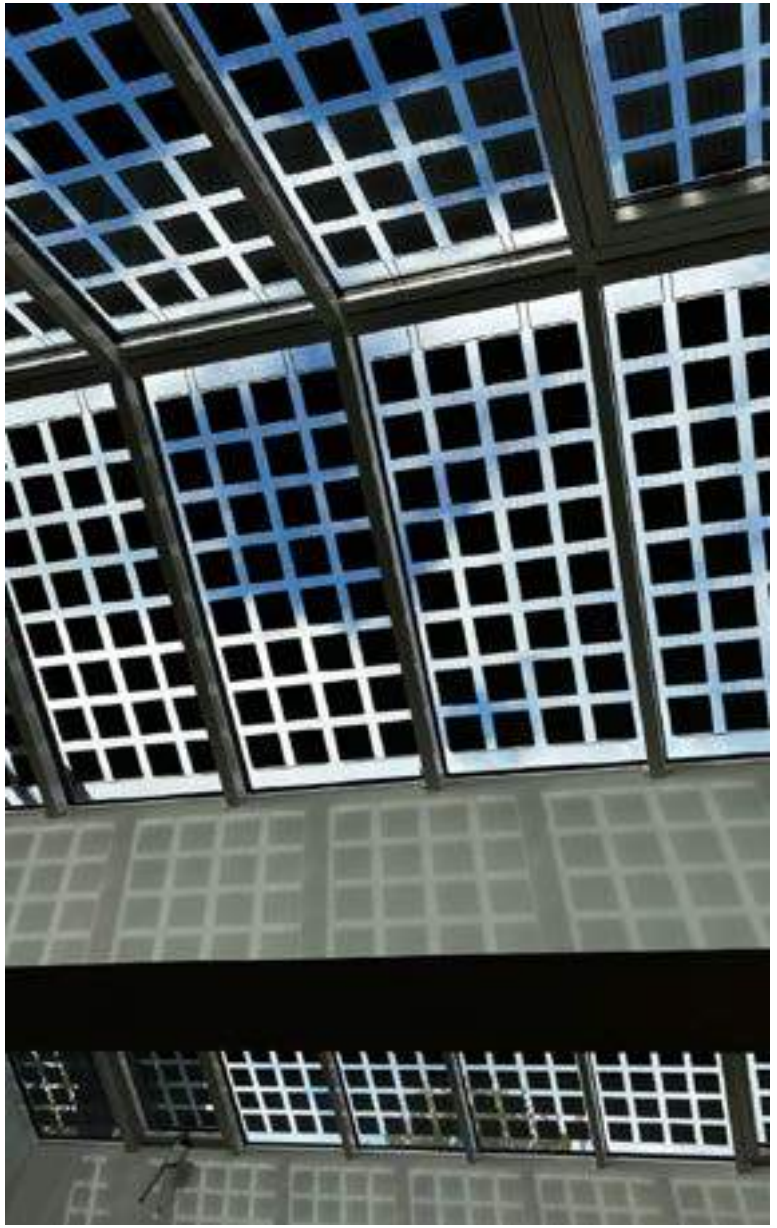
Hermans Technisolar was asked to help create a sustainable and flexible education building for Rotterdam's Fridtjof Nansen School. It was crucial to adhere to the school's sustainable and low-energy mission.

Solution

Hermans Technisolar supplied transparent solar panels in the roof plane, allowing daylight to reach deep into the heart of the building. The total installed power is 4390 Wp, distributed over 28 active PowerGlaz solar panels, with an expected annual yield of approximately 3,800 kWh under ideal conditions.

Result

As a result, the school was able to reach its sustainability goals by using Hermans Technisolar's PowerGlaz product.



Case study

Four Elements Hotel (former Breeze hotel), Amsterdam

Brief

Hermans Technisolar was tasked to support the Four Elements Hotel (Former Hotel Breeze) in creating the first (n) Zero Energy Hotel with BREEAM ‘Excellent’ certification.

Solution

Hermans Technisolar delivered a solution that seamlessly integrated solar panels into the façade, keeping the natural stone-coloured aesthetics of the building, while providing 63 solar panels in 12 different sizes that were incorporated as a canopy.

Result

As a result of the involvement of Hermans Technisolar, The Four Elements Hotel is now able to harnesses sunlight and wind to heat and cool the living spaces. This smart combination of solar heating and specialised air circulation provides naturally heated water and ventilation to the rooms of the hotel.

Case study

Huis van de Stad, Rijswijk

Brief

Hermans Technisolar was asked to assist in providing a sustainable solar-energy solution that maintained the architectural aesthetics of the former city hall in Rijswijk – now the House of the City of Rijswijk.

Solution

Providing a solution that seamlessly integrated solar panels into the façade to keep the building's natural stone-coloured aesthetics, Hermans Technisolar distributed over 60 active PowerGlaz solar panels, expected to yield approximately 28,000 kWh annually under ideal conditions.

Result

Hermans Technisolar supplied solar panels that provided maximum sustainability benefits within the financial constraints of the project.

Case study

Sauna House, Netherlands

Brief

Hermans Technisolar was asked to assist in creating a sustainable solar-energy solution that amplified the buildings natural marble structure and minimalist clamping style.

Solution

Providing a solution that seamlessly integrated solar panels into the façade to keep the building’s natural marble aesthetics, Hermans Technisolar distributed over active PowerGlaz solar panels.

Result

In doing this, the architectural creativity was kept in line with the client’s and developments goals and became an artistic feature of the building, renewably generating energy and positively influencing design aesthetic.

Case study

Haut, Netherlands

Brief

Haut enriches Amsterdam with its iconic status. We were approached to provide a sustainable energy solution to this iconic building.

Solution

We installed a total capacity of 73,125 Wp, distributed over 225 active PowerGlaz solar panels. The expected annual yield is about 50,000 kWh under ideal conditions. The solar panels were fitted to the Haut's façade to generate the maximum energy.

Result

In doing this, the architectural creativity was kept in line with the client's and developments goals. The Haut now earns the highest possible sustainability accreditation, unique in Dutch housing.

Case study

Galaxy Tower, Utrecht

Brief

Galaxy Tower is one of the first developments there and will be a mix of a hotel and residential building. We were asked to provide a sustainable and fully integrated solution to provide renewable energy.

Solution

Our PowerGlaz is designed to integrate seamlessly into a façade design, renewably generate and positively affect design aesthetic

Result

By incorporating solar energy not only in or on the roof, but also in the facade, the entire building envelope is used to generate energy. Especially for high-rise buildings a fantastic sustainable solution! Thanks to the solar panels integrated in the facade, the energy consumption of the tower will be spectacularly low. Naturally, the building meets the new sustainability requirements of the municipality of Utrecht for the new ‘Healthy Urban Quarter’.

Pioneering sustainable solutions

Our mission at Hermans Energy Solutions is to design, manufacture, and install sustainable solar products that positively impact the environment.

- We create next-level solar systems that utilise natural heat, light and power.
- We transform construction by providing sustainable technology and building methods.
- We let sustainability drive every aspect of our business.

Thank you

hermanstechnisolar.nl

Hermans Technisolar
CUSTOM-MADE SOLAR SOLUTIONS

SOLar INtegrated SOlutions

Paul de Jong

januari 2023

solinso

Over mijzelf – Paul de Jong

- TU Delft elektrotechniek 1985 – 1990
- Gepromoveerd in 1998
- Sinds 2004 actief in de zonne-energie industrie
  - 2004 – 2011 ECN technology transfer
  - 2011 – 2014 betrokken als consultant bij solar start-ups
  - 2014 – heden Solinso

solinso

Solinso Mystiek

- **Solinso levert geen one-size-fits-all bulkproducten maar onderscheidt zich op technische en visuele kwaliteit**
  - **Slim omgaan met ruimtegebruik**
  - **Slim omgaan met materiaalgebruik**
  - **Slim omgaan met arbeid**
  - **Esthetica en zonne-energie moeten goed samen gaan**

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Waarom is Mystiek ontwikkeld?

1. Vergroten van het draagvlak van zonne-energie met een esthetische energieoplossing

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Bouwproduct

2. Volledige integratie in de bouwkolom

- Ontworpen als dakpan, en vervangt dakpannen
  - dus maar 1x arbeid
  - gebakken kleipannen zijn zeer energie intensieve producten
- Bouwkundig stormbestendig, vliegvuurbestendig, waterkerend
- Sluit naadloos aan op de omliggende dakpannen

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Flexibiliteit

3. Doordat Mystiek kleiner is dan een standaard zonnepaneel ontstaat meer ontwerpvrijheid
   - Eenvoudiger om langs obstakels heen te werken
   - Mystiek ook leverbaar als werkend “passtuk”

solinso

Prijs-prestatie verhouding

4. **Solinso gebruikt dezelfde zonnecellen als in normale zonnepanelen. Daardoor in prestatie vrijwel gelijk aan gewone zonnepanelen. Het uitsparen van keramische dakpannen maakt BIPV prijs-competitief bij nieuwbouw en dakrenovaties**

solinso

Rolverdeling

- **Solinso is de systeemarchitect en de producent/leverancier van Mystiek zonnedakpannen**
  - **Directe levering (niet via de groothandel)**
    - Solinso produceert en levert de Mystiek zonnedakpannen plus montagemiddelen en eventueel ook de omvormer
  - **Projectbegeleiding bouwtechnisch**
    - ontwerp: uittekenen van de paneellocaties, controle op kaptekeningen, inpandig DC kabeltrace, omvormer locatie, etc.
  - **Projectbegeleiding elektrotechnisch**
    - ontwerp van stringplan en omvormerselectie, aansturing van elektricien en solar installateur (kan dezelfde partij zijn)

Rol en werkwijze van Solinso in projecten

solinso

Mystiek en esthetica

solinso

Bedankt voor je deelname!

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TKI URBAN ENERGY
Topsector Energie