

SUSTAINABLE ROOF



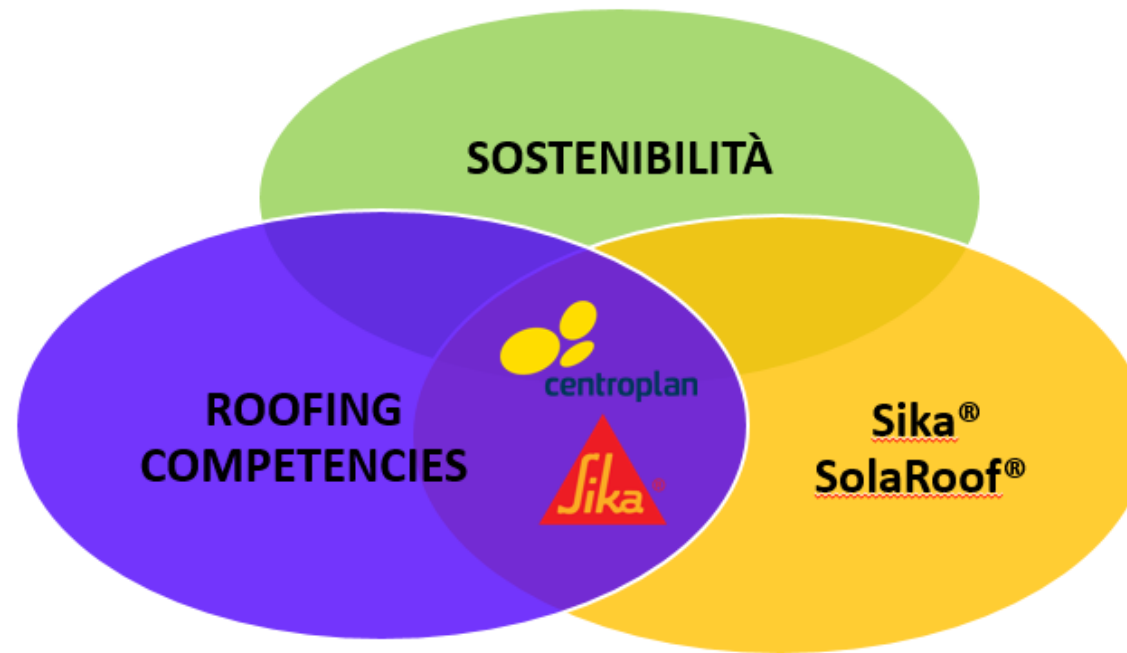
14.11.2019 Evento AHK Building(s in) the future

AGENDA

- Sika and Centroplan as a partnership
- Sika® SolaRoof®
- The roof as an asset
 - Solar
 - Cool Roof
 - LCA
- Case Study

WHAT BRINGS SIKA AND CENTROPLAN TOGETHER

- Sustainability
- Roofing competencies
- Sika® SolaRoof®



WHO IS SIKA?

SIKA GROUP

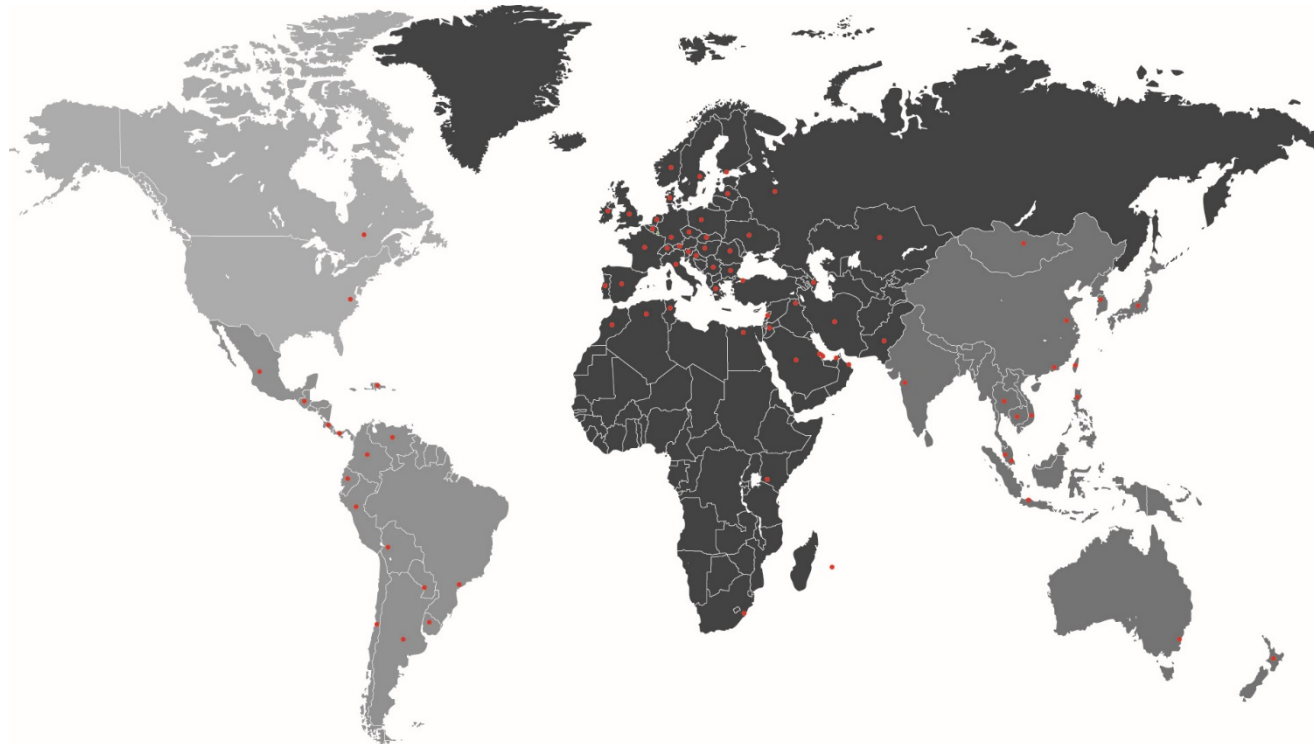
MILESTONES

- 1910 Kaspar Winkler in 1910
- 1920s Gothard tunnel waterproofing
- 1930s Expansion in Europe and Latin America
- 1962 PVC and liquid membrane
- 1968 Sikaflex®
- 1969 Green roofs
- 1980s Automotive
- 1983 Industry Division
- 1988 Flexible polyolefine Sarnafil® T
- 1989 Mechanical fastened system Sarnafast®
- 1998 Sika® ViscoCrete®
- 2006 Sarnafil®
- 2009 Sika ComfortFloor®
- 2010 100 years
- 2011 i-Cure® (new sealents and adhesive technology)
- 2013 EPD Sarnafil® T
- 2013 Sika® Solar Mount-1 per impianti FV
- 2014 25 successful years with Sarnafil® T membrane



GLOBAL PRESENCE

- EMEA, Asia/Pacific, North America, Latin America
- 101 countries
- More than 200 production sites
- More than 30,000 employees
- More than 7 billion CHF revenue



TARGET MARKETS



Concrete



Waterproofing



Roofing



Flooring



Sealing & Bonding



Refurbishment

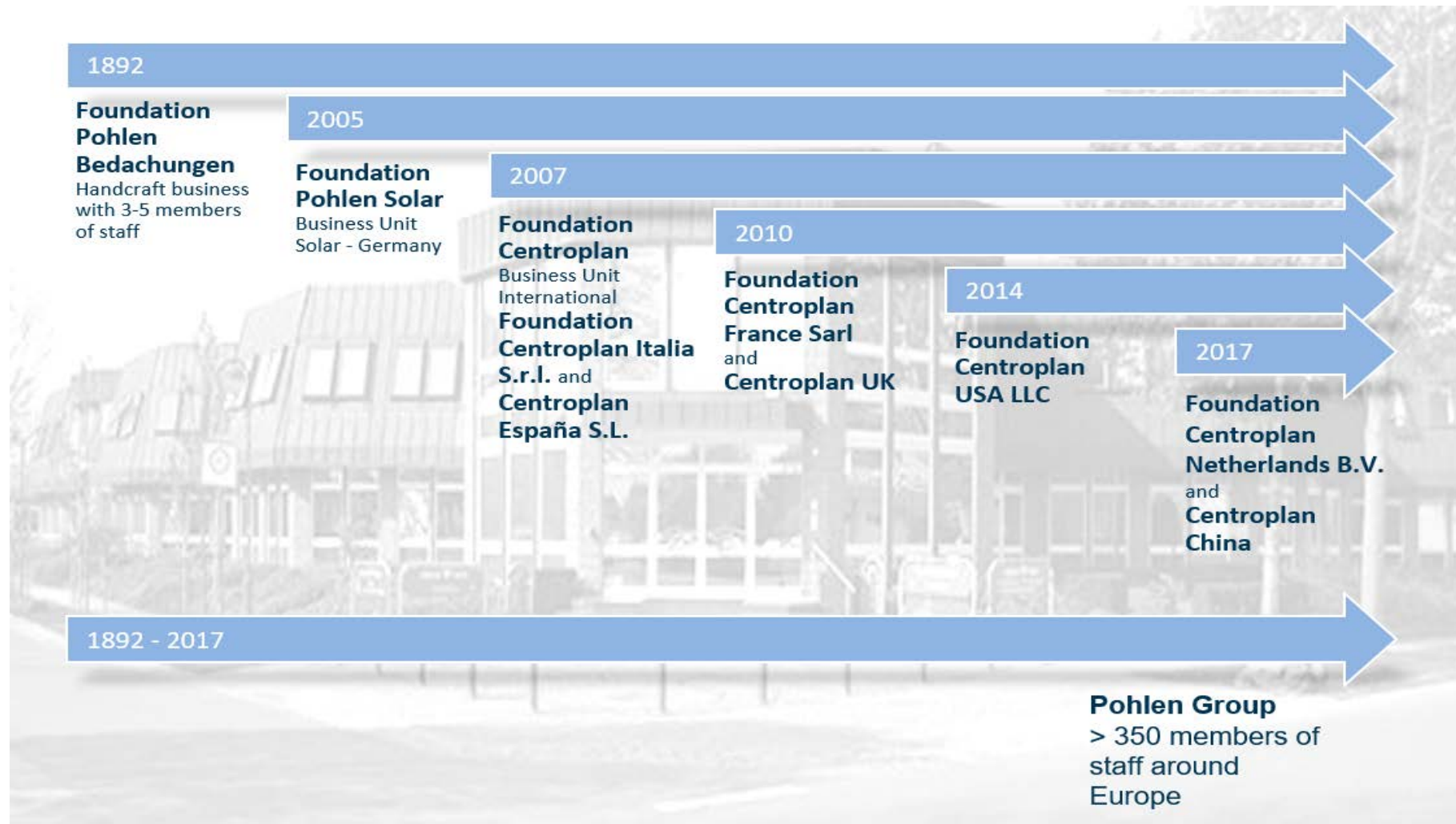


Industry

CENTROPLAN: COMPANY PRESENTATION

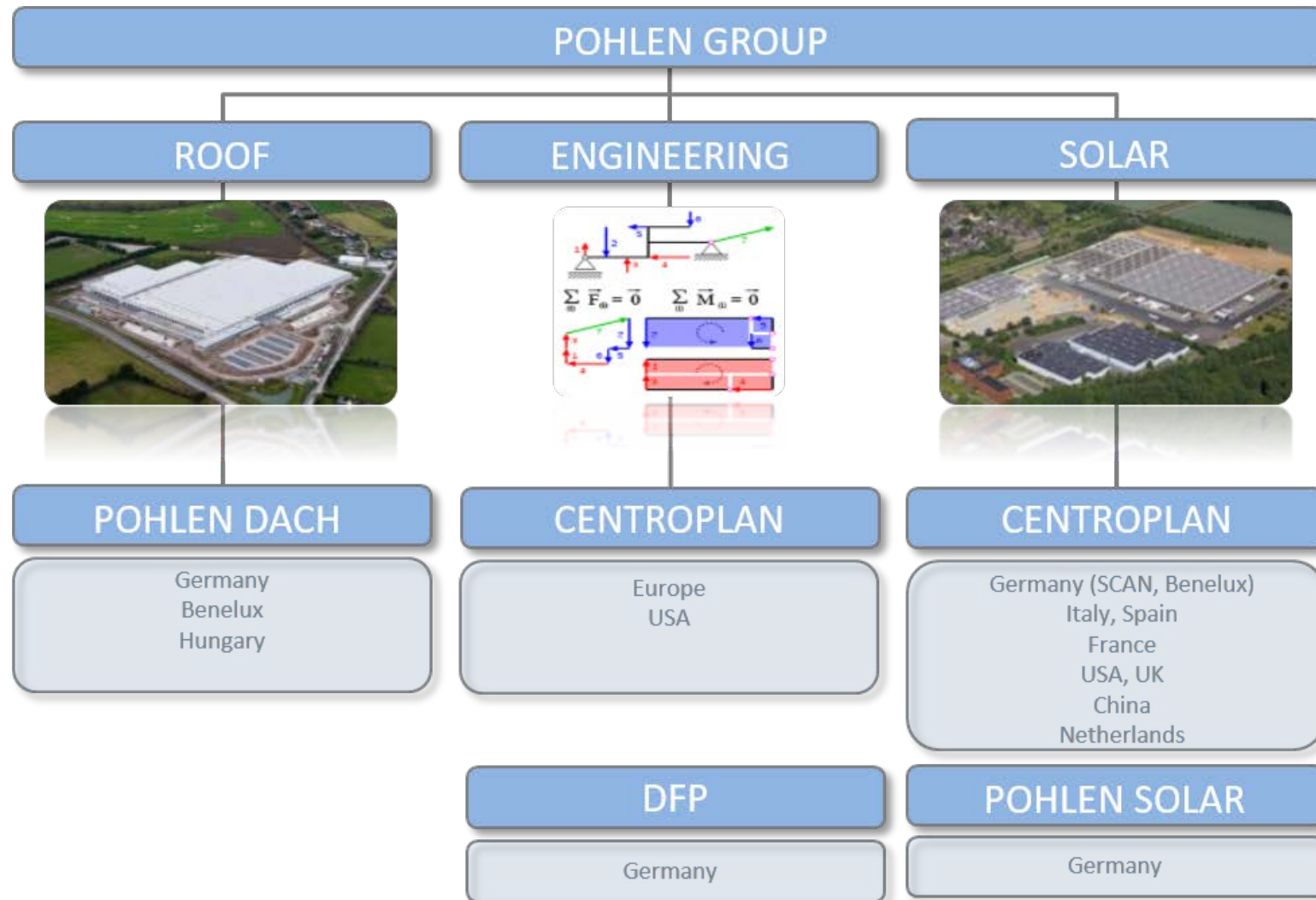


GRUPPO POHLEN/ CENTROPLAN: COMPANY HISTORY

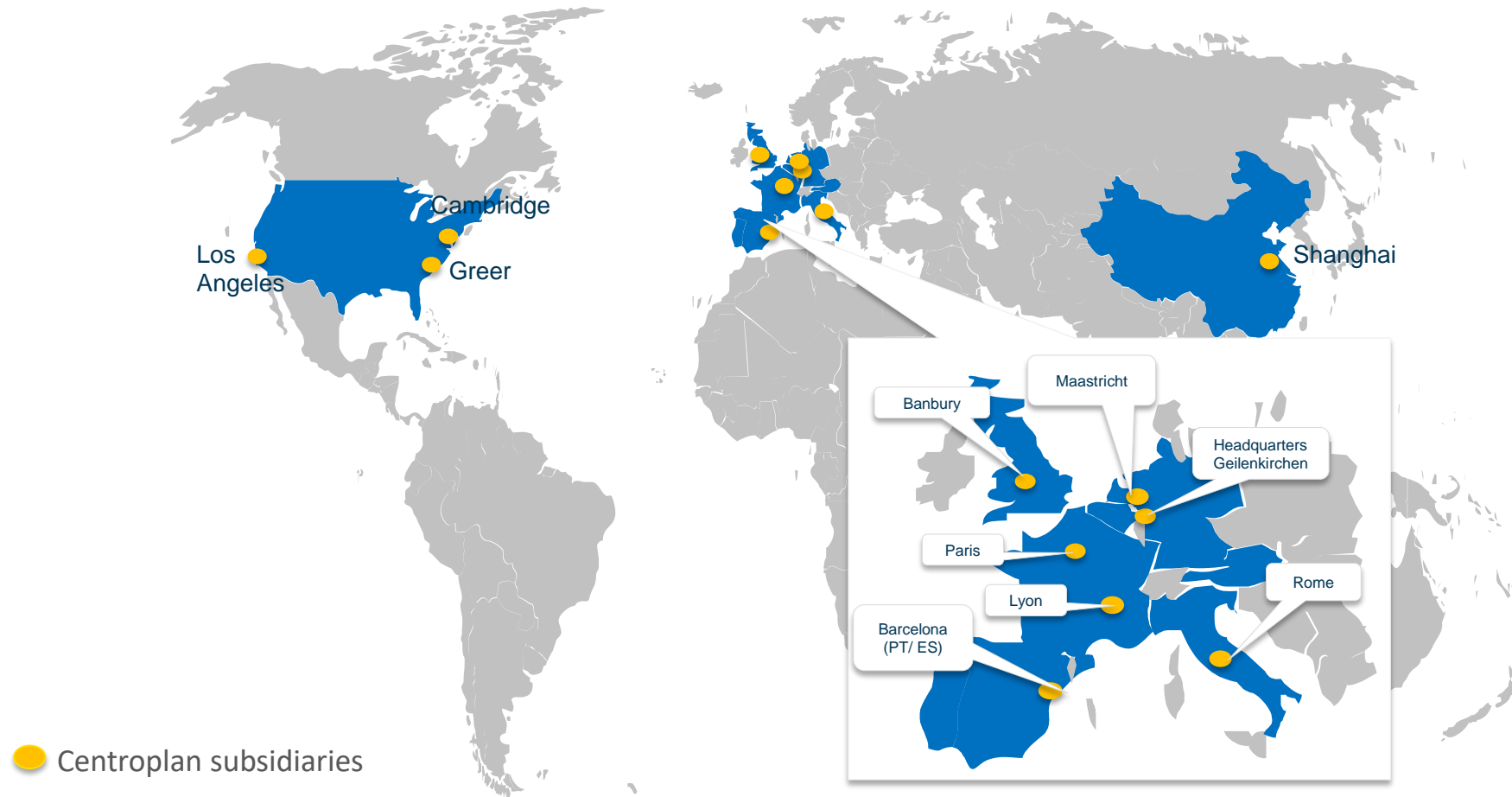


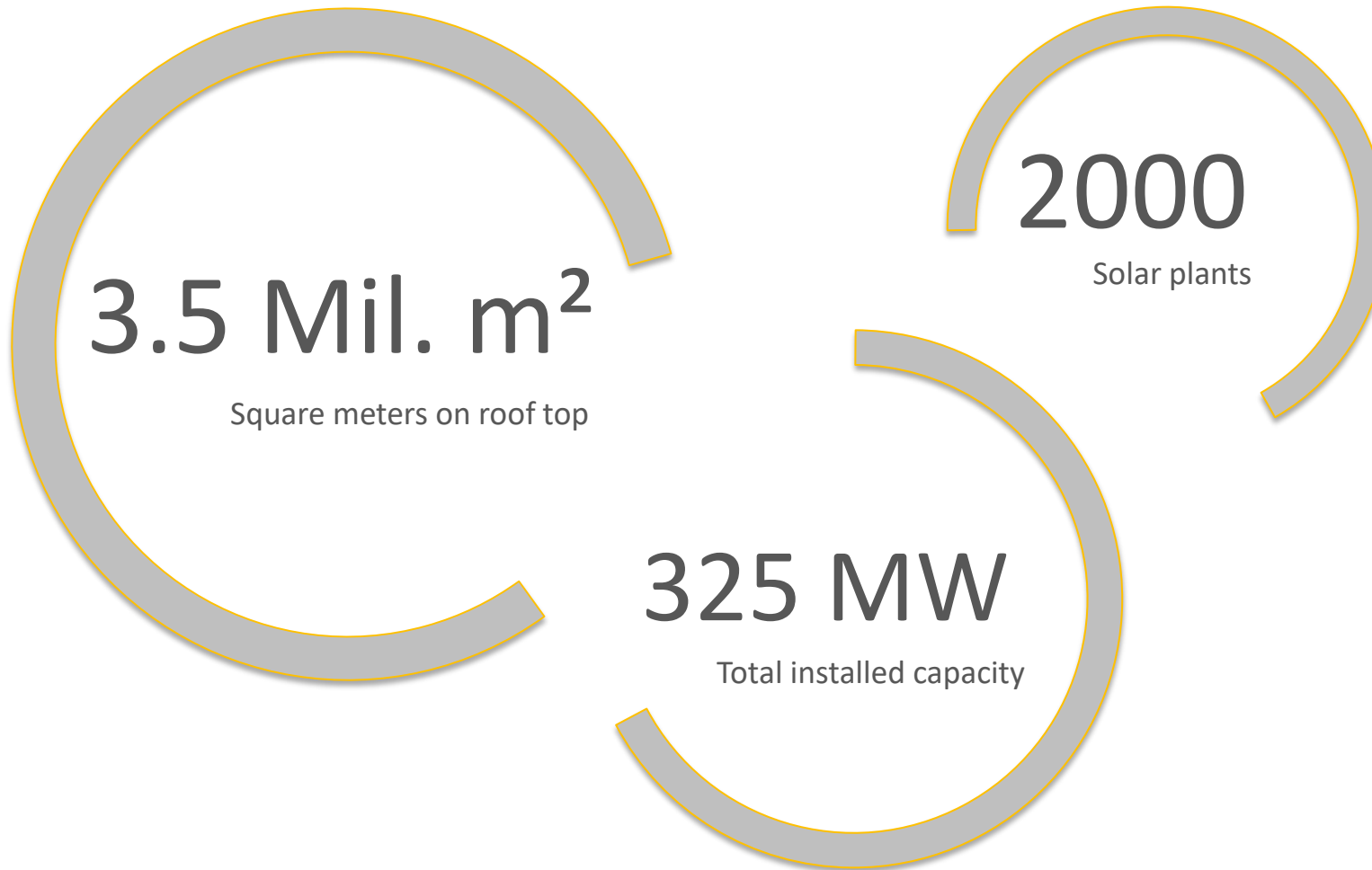
130 years experience in solar & roofing

GRUPPO POHLEN : BUSINESS UNITS



CENTROPLAN: WHERE WE ARE



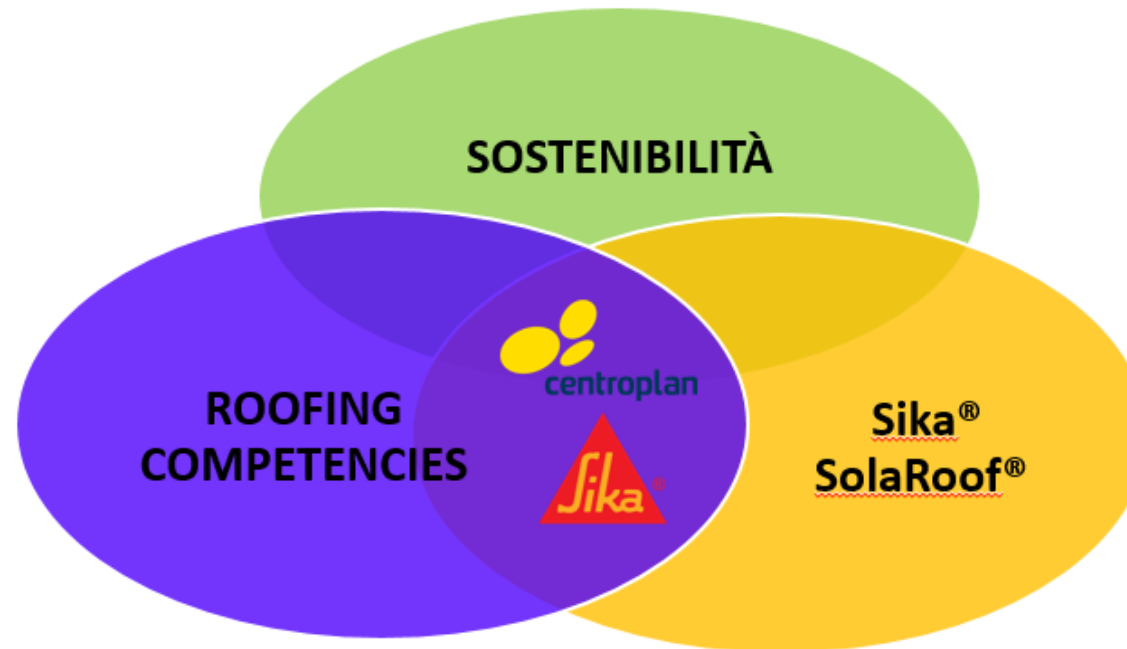


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- ***Sika® SolaRoof®***
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WHAT BRINGS SIKA AND CENTROPLAN TOGETHER

- ***Sika® SolaRoof®***



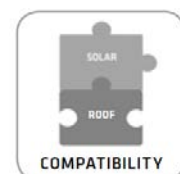
SSM1 PRODUCT ADVANTAGES



Up to 20 years guarantee from Sika



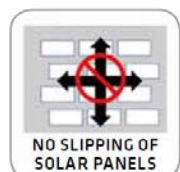
No risk of roof leakages



Compatibility to Sika membranes - no separation layers required



Low additional roof weight by PV system (8-15kg/m²)

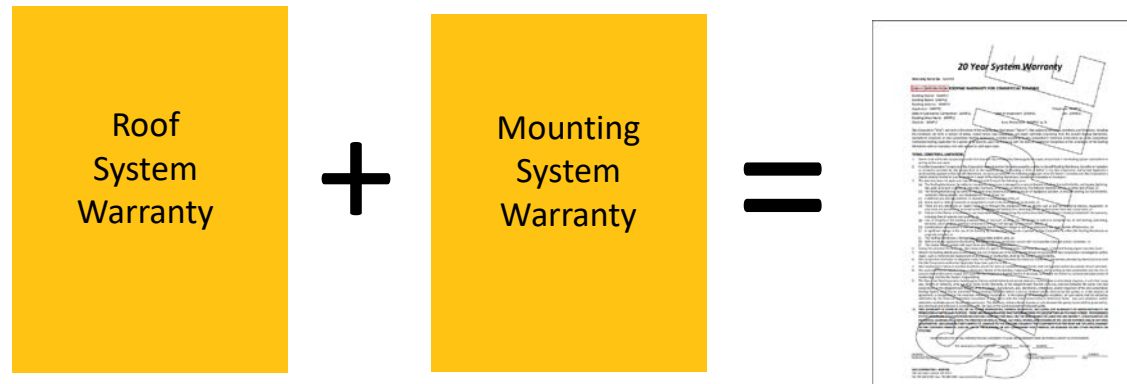


No lateral movement of pv array due to welding the array to the membrane



No barriers for easy snow clearance

SINGLE-SOURCE WARRANTY



Warranty Includes Solar PV Mounting and Roof System

- NO Liability Gap at “The Interface”
 - Roof and PV mounting system covered
- Single manufacture contact
- Equal time period (up to 20 years)

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Challenges for building owners

Building owner

- › New regulation for energy efficiency
- › Low carbon food print
- › From standard roof to functional roof
- › Roof lifetime to match PV installation
- › Differentiation to competitors
- › ROI expectation on Energy investments
- › Are existing roofs suitable for energy solutions?
- › Coordinate activities at several locations

Life Cycle Assessment (LCA)

Fulfillment of technical, economic and environmental requirements

Energy management

- › Increasing electricity prices
- › Corporate energy strategy
- › Political regulatory environment

Storage systems

- › Increasing self consumption rate
- › Increasing energy self-sufficiency

Increased roof requirements for energy concept

REQUIREMENTS FOR ROOF TOP SOLUTIONS

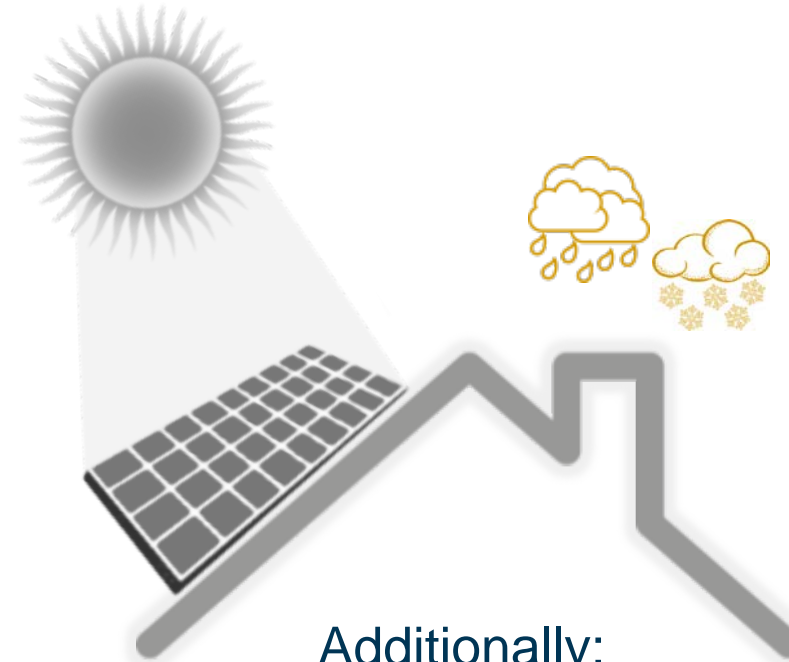
In the past



Climatic impacts

- Rain
- Snow
- UV radiation
- („non-utilized“)

Today



Additionally:

Economic Factor

- Green Roof
- Solar Roof
- („utilized“)

→ Higher quality standards/
requirements for roof tops

Key facts for a solar roof

- Long term Warranty
- No interface between roof and solar → “One-stop-shop”
- Roof quality
- Structural analysis/ Avoid friction
- Compatibility of components
- Optimal performance and yields
- Life Cycle Assessment (LCA)



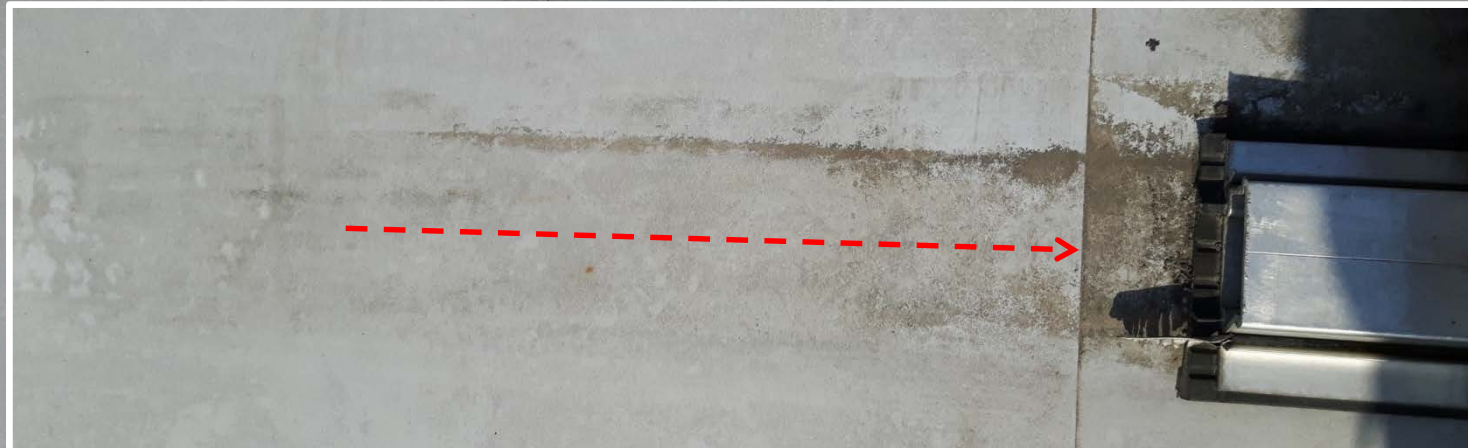
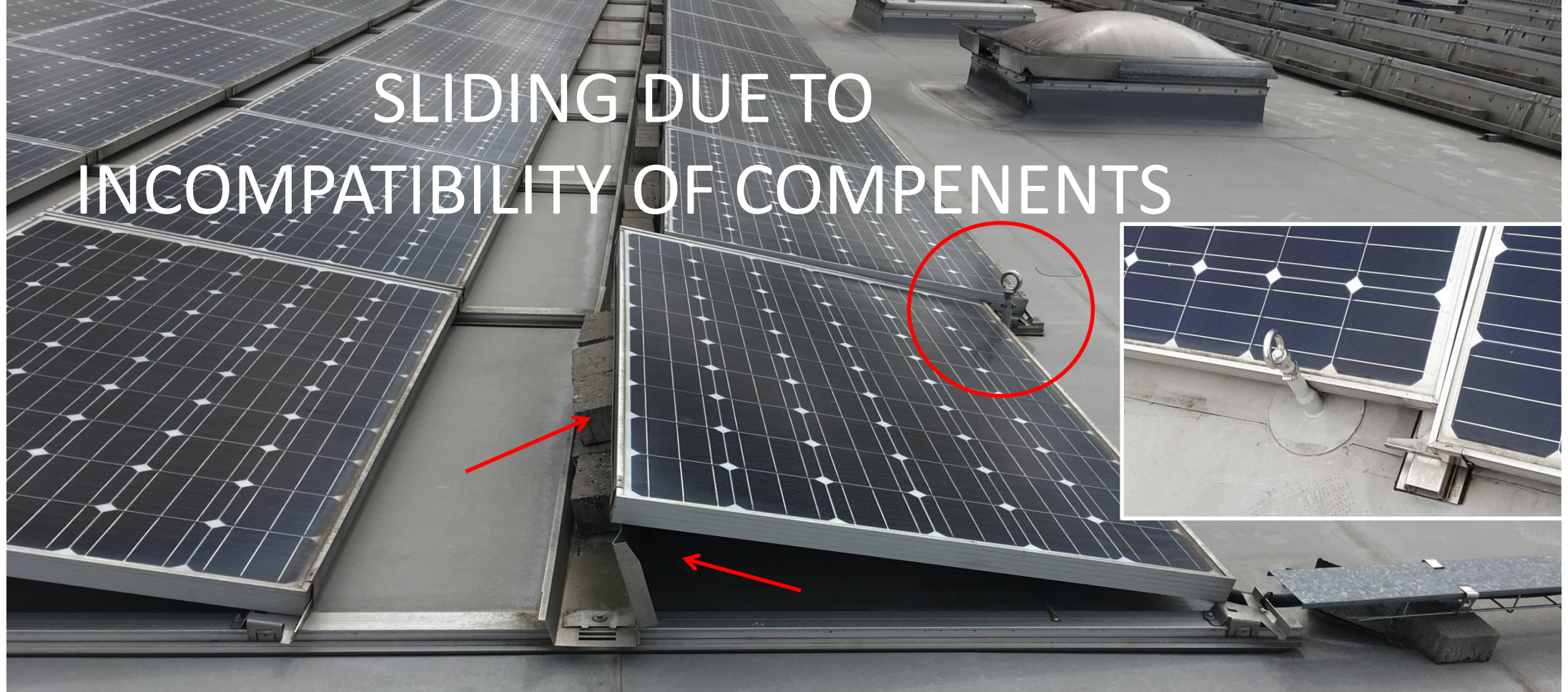
DUE-DILIGENCE PHASE - RISKS

Roof not suitable for additional loads



Dr. Cedrik Zapfe

SLIDING DUE TO INCOMPATIBILITY OF COMPONENTS



PROCESS 4: Unnecessary repairs and unscheduled roof renovations



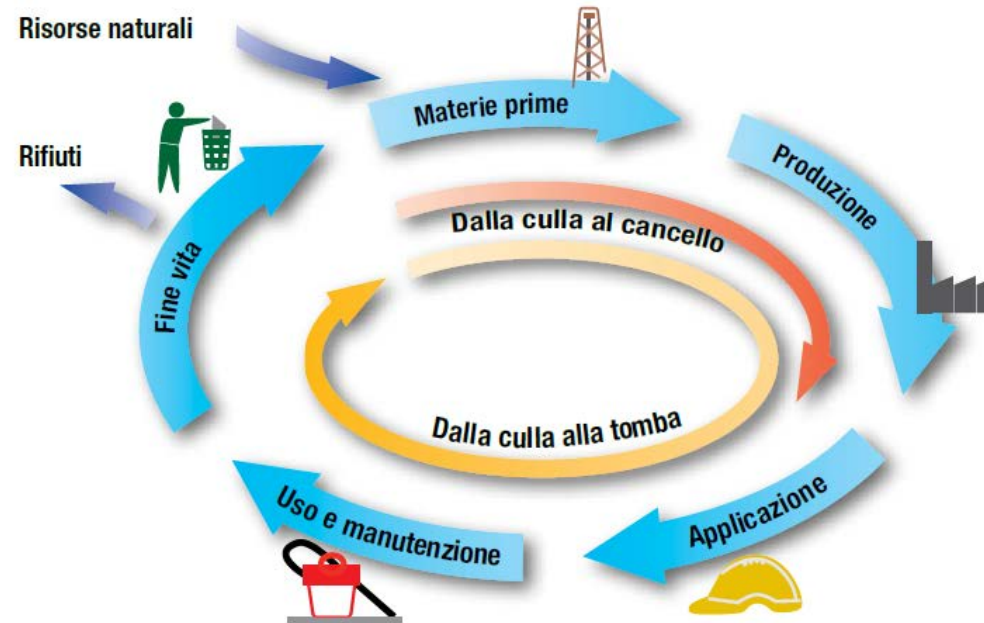
SINGLE PLY MEMBRANE BASED ON FLEXIBLE POLYOLEFINE

LIFE CYCLE ASSESMENT



Roofing
Soluzioni sostenibili per coperture

BUILDING TRUST 

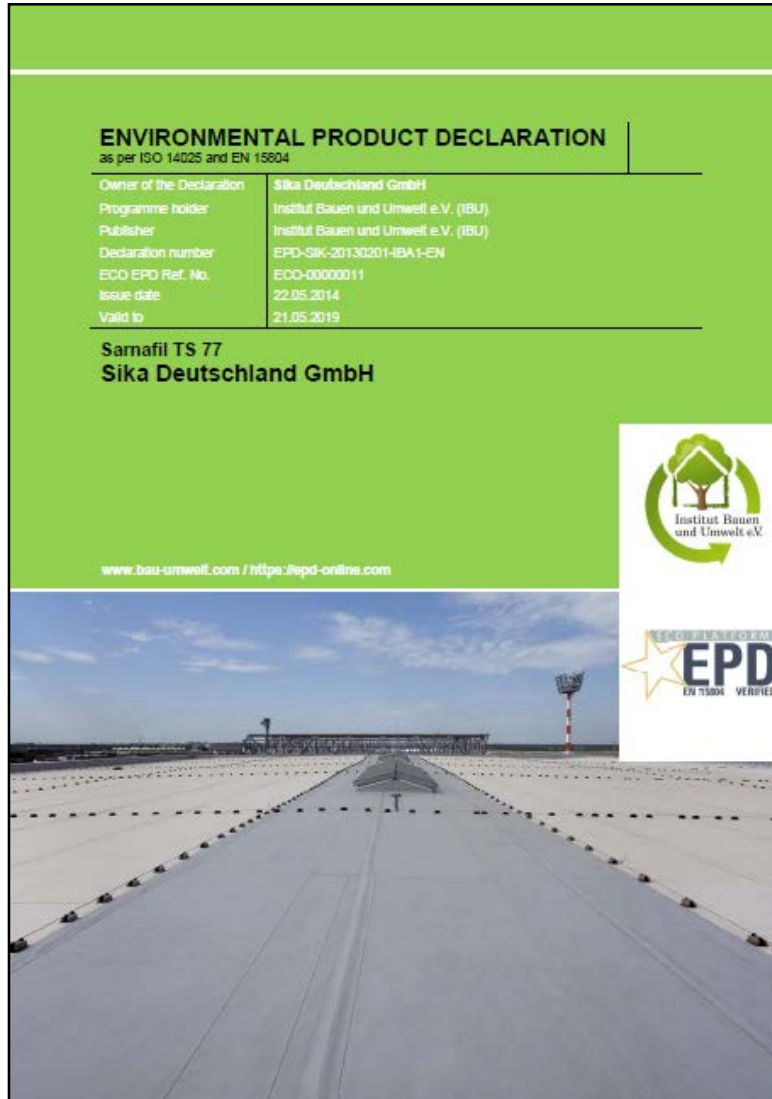


- Based on objective data
- According ISO 14040, EN 15804 standards

2014

SINGLE PLY MEMBRANE BASED ON FLEXIBLE POLYOLEFINE

ENVIRONMENTAL PRODUCT DECLARATION EPD



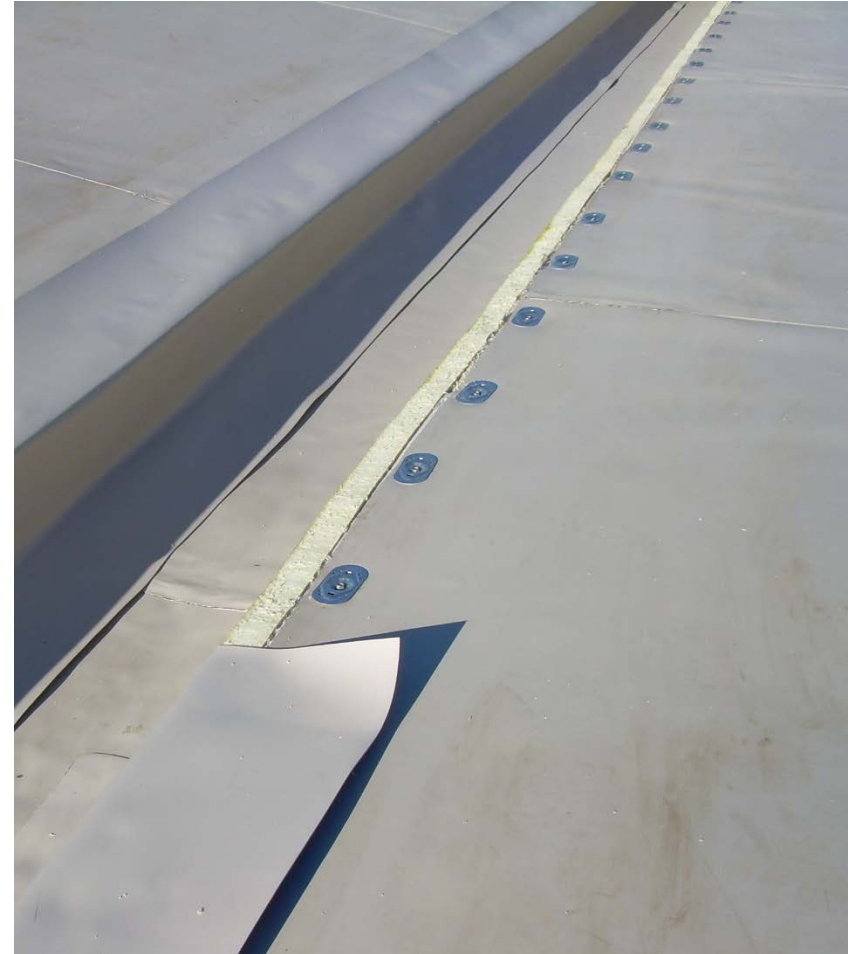
- Product LCA
- IBU validation
- Sarnafil T: first product family with EPD



2014

WHAT IS A COOL ROOF? MECHANICAL FASTENED SYSTEM

Sarnafast system



WHAT IS A COOL ROOF?

APPLICATION SYSTEM ADVANTAGES

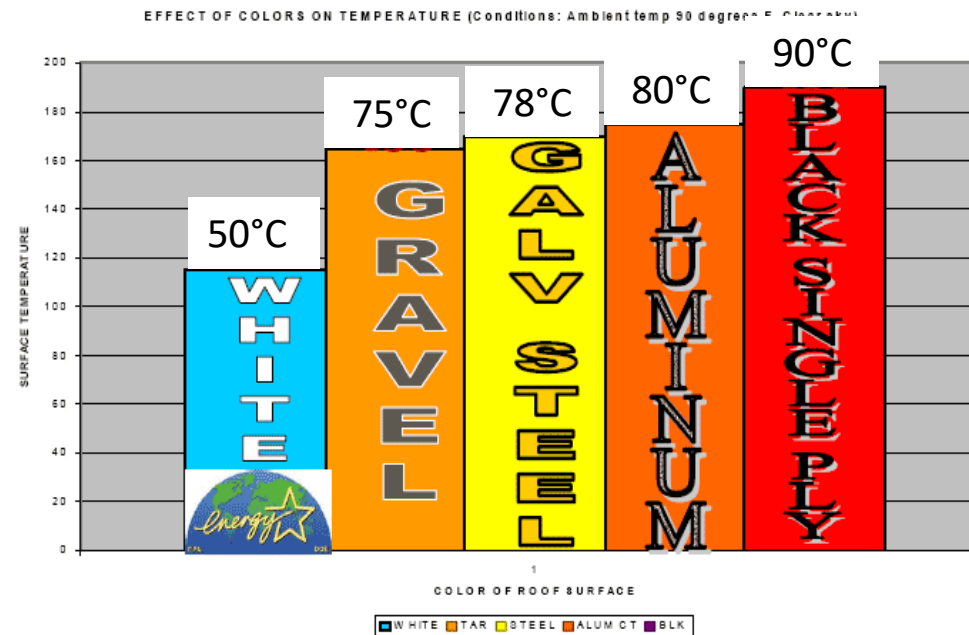
- Specific design for each roof
- Quick and easy application
- Light solution → low weight structure → economical benefit
- Waterproofing independent from the structure / substrate



WHAT IS A COOL ROOF?

COOL ROOF ADVANTAGES

- Heat island effect reduction
- Roof surface temperature reduction
- Electricity consumption reduction
- Summer thermal insulation increase
- Single ply membrane durability increase

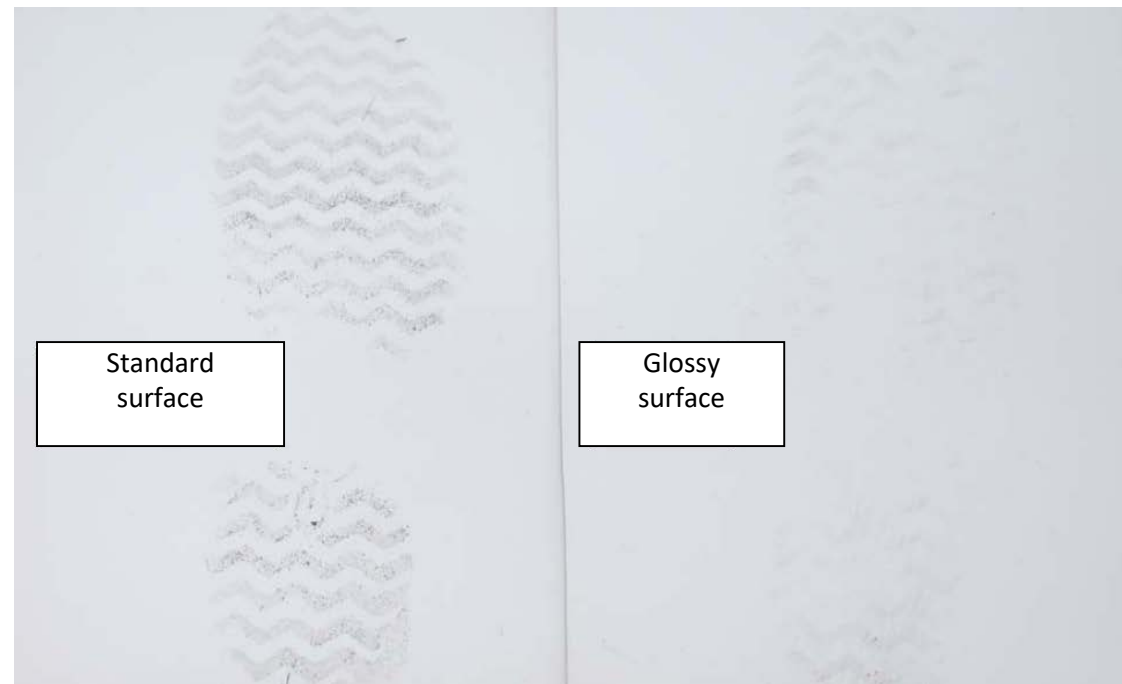


Colour influence on
roof surface
temperature

WHAT IS A COOL ROOF?

EXERCISE PERFORMANCE

- High SRI
- Exclusive glossy surface
- Easy cleanable (according Sika guideline)



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CASE STUDY

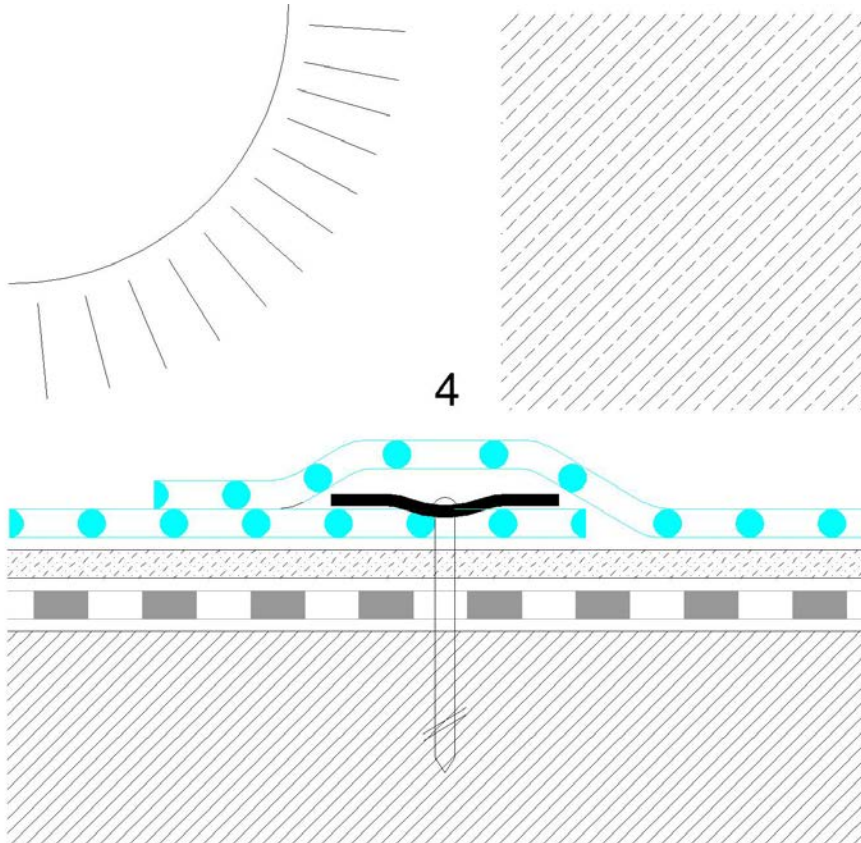
COOL ROOF



- Object
**Shopping mall
Campania**
- Description
**Roof refurb of 5
commercial building**
- Sika solution
**Sarnafil TS 77-18 RAL 9016 SR
mechanical fastened + PP felt
as separation / levelling layer
(35.000 m²)**

CASE STUDY

COOL ROOF



1. Substrate with existing bituminous membrane
2. Levelling layer, felt non woven 100% polypropylene, Sarnafelt PP 400
3. Flexible polyolefine, Sarnafil TS 77-18 RAL 9016 SR
4. Mechanical fastened Sarnafast

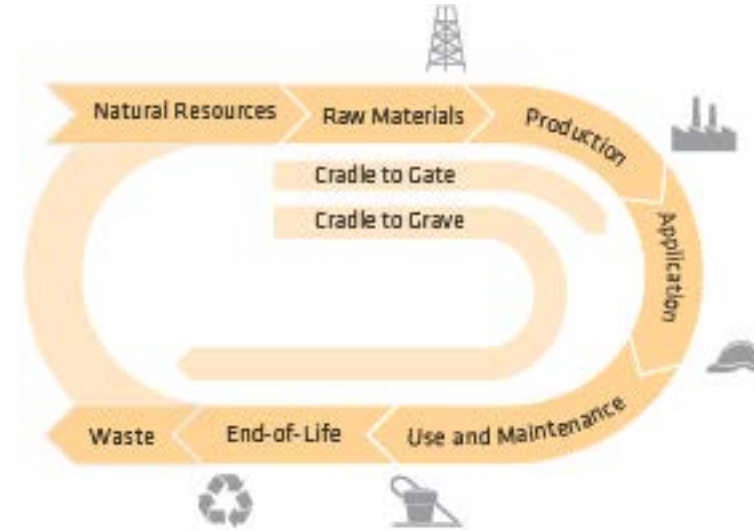
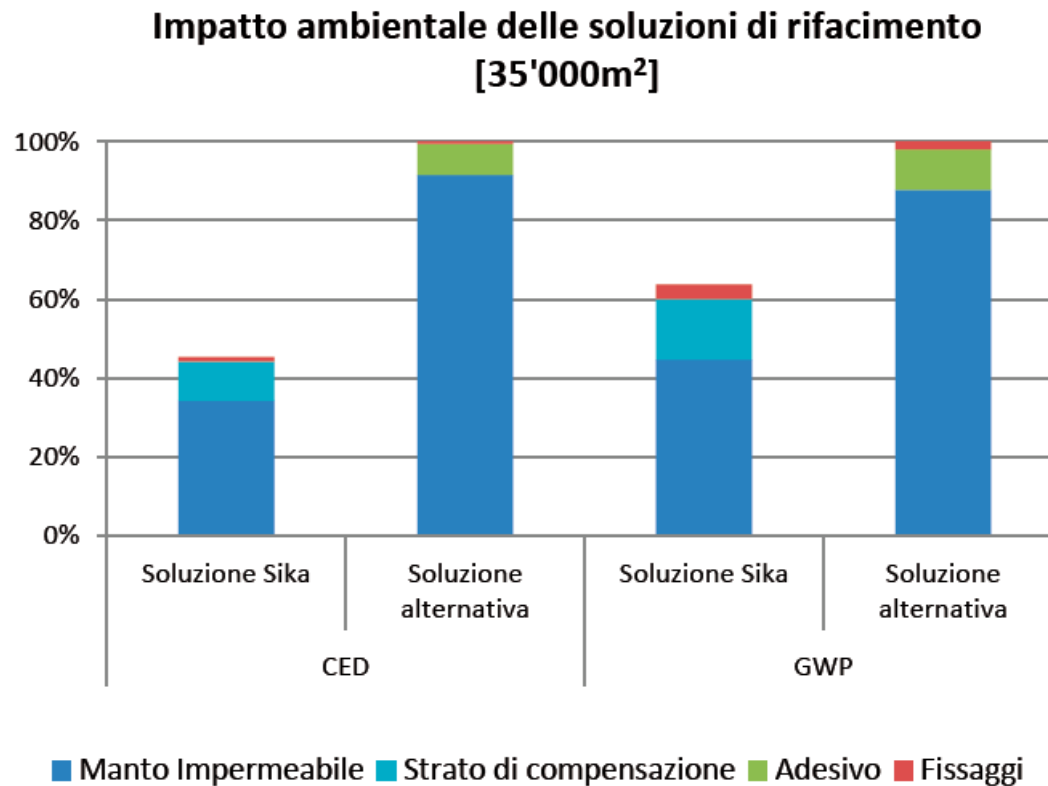
CASE STUDY

COPERTURA COOL ROOF



CASE STUDY

LCA ANALYSIS

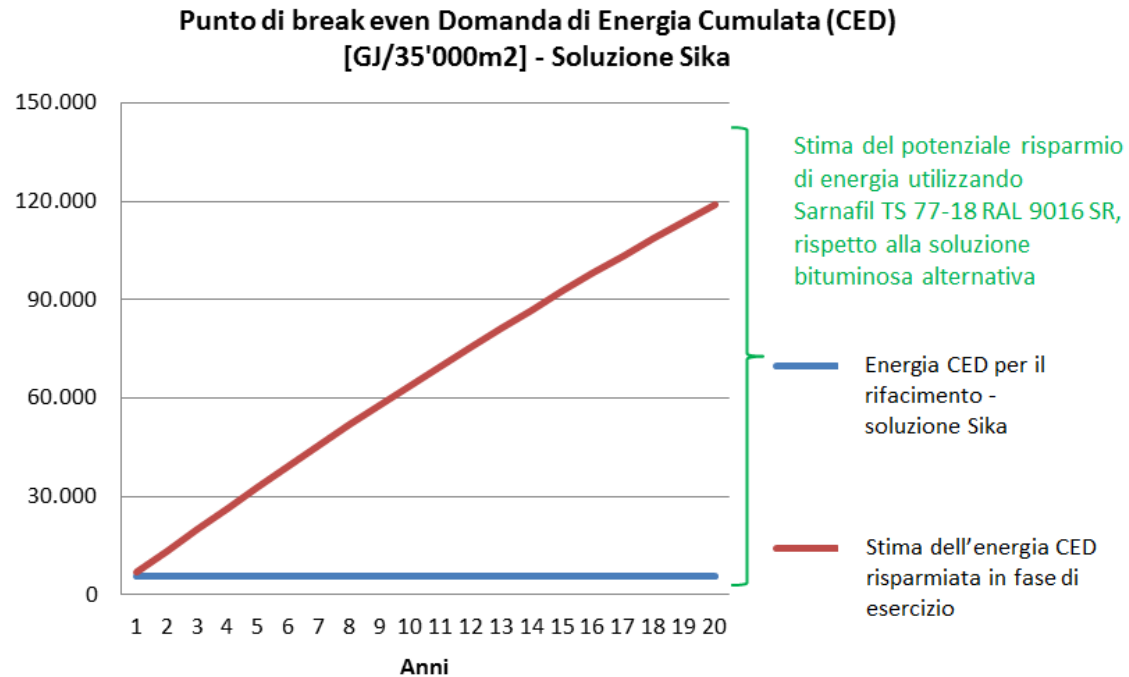


Sika solution advantages:

- **-54%**
Cumulative Energy Demand (CED)
- **-30%**
Global Warming Potential (GWP)

CASE STUDY

COOL ROOF – LCA ANALYSIS



Sika Cool Roof solution advantages:

- -600 MWh/year for summer conditioning
- -100.000 €/year (electricity cost estimated 0,17 €/kWh*)

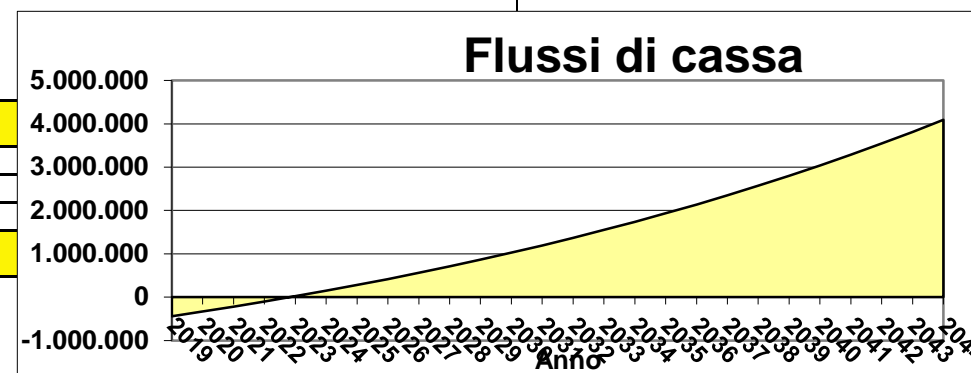
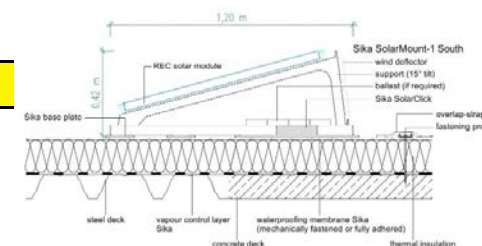
* Source ARERA (ex AEEG)

CASE STUDY

SOLAR

PROGETTO: Giuliano	500,0 kWp	Moduli Suntech TSM 310Wp
Investimento (Investitore)		
Connessione alla rete:	Jul 19	
Investimento totale:	490.000 €	,98 €/Wp
Producibilità e Rendita (Investitore)		
Potenza dell'impianto:	500,00 kWp	
Proporzione autarchia:	80%	
Producibilità specifica (Meteonorm):	1.452,00 kWh/kWp	
Produzione per kWp:	1452,00 kWh	
Produzione di energia elettrica nel 1° anno:	726.000,00 kWh/Anno	
Risparmio sull'energia elettrica autoconsumata:	0,1800 €/kWh	
Rendita globale al primo anno:	104.544,00 €	
Finanziamento (Investitore)		
Capitale investito:	100,00%	
Risultati (Investitore) tasse escluse		
IRR	28,60%	
Ritorno medio sul capitale investito	33,39%	
Surplus totale (incluso il capitale investito):	4.580.886 934,87%	
Valore attuale netto	1.218.115,89 €	

autoconsumo	rimborso SSP
50%	60%



Tasso d'interesse di riferimento 7,5 %

Thanks for your attention!

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