



Initiatives for SDGs

Sustainable environment Energy saving measures by Nano-tech Coating



● Company ; **SKETCH.CO.,LTD**

● CEO; Yasuhiro Shimada

● Foundation; February 1989

● Capital; 50 million yen

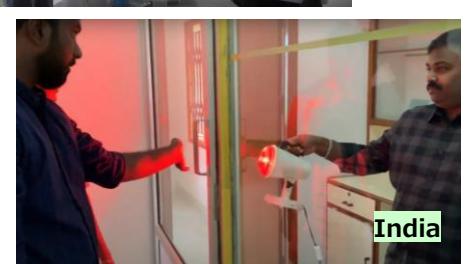
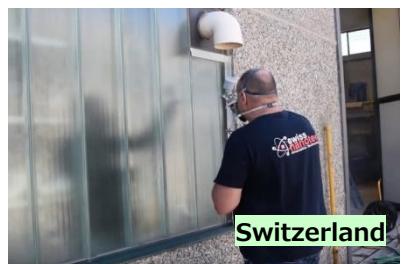
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● Business; Development and manufacturing nanotechnology coating and highly performance paint for promoting SGDs

- ① IRUV cut coat H-SP ; By applying a coating with a roller,
the performance of window glass is improved to 80% IR cut and 99% UV cut.
 - ② Super Glass Barrier ; Anti-static, Super Hydrophilic Self-Cleaning coat
for anti-fouling performance for exterior of existing building, service vehicle and so on.
 - ③ MK Clean Coat, Air Refresh, Air Clean Light Coat, Clean Air Guard SP...Deodorizing, Anti-mold, Anti-bacterial, (photocatalyst)
coat for indoor space, interior materials
 - ④ Rust Shield & Thermo ECO Shield... Anti-Rust, Water-proof primer & Heat Cut, Thermal insulation paint for outdoor unit.
 - ⑤ Solar Self Maintenance Coat CNT & Solar Heat Dissipation coat... Antifouling performance & Heat Dissipation performance.
- Domestic clients ; about 50 domestic Distributors in Japan
- Affiliated company: SETSUDEN ECO Shop Co. Ltd.
- Over-sea sales performance ; It has been selling 37 countries so far.



History of Sketch Co., Ltd

Stage 1) 1995~ Business entry into the nanotechnology industry

- 1995~1998, consulted for the launch of the TOTO photocatalyst "Hydrotect" business in Japan.
- 1999~, A seminar was held to develop the usage of polysilazane developed by Tonen Co., Ltd in Japan.
- 2000~, Transferred the room temperature glass coat business to Izumi Paint = Oasis and expanded it nationwide as a car body coat "Quartz Glass Coat"
- 1999~, Developed anti-static, super-hydrophilic self-cleaning coat for outer walls.
- 2000~ Development of Anti-static, Super Hydrophilic Self-Cleaning Coat for outer-wall It has been selling 10million m² equivalent material till 2022
- 2001~ It started to manufacture and to sell Anti heat, thermal Insulated Glass Coat =IRUV Cut Coat
- 2006~ Participated as Japan representative at the Beijing National Grand Theater Roof Photocatalyst self-cleaning review meeting.
(Sketch announced products that demonstrate antistatic superhydrophilic self-cleaning function even without light in contrast with the photocatalyst related products of the Chinese Academy of Sciences, Beijing University, Tsinghua University, South Korea, Germany and France, Sketch Product evaluated as having the highest No,1 antifouling effect.)
- 2004~It started to sell deodorant, Anti-bacterial Coat by No photocatalyst & Visible Light response photocatalyst for Japan, China market
- 2007~Sketch sold 30t or more Photocatalytic deodorization, antibacterial coat products for government offices starting from the conference room in the Great Hall of the People in China .

Stage 2) 2008~ : To Japanese No,1 Nanotech Coating Manufacturer

- 2008~ It established ECO BUSINESS CLUB CO.,LTD in Japan. It built 100 or more domestic distributor. It started to sell IRUV cut coat as the nationwide unified application price of 6000JPY/m².
- 2011~ With the power shortage due to the Great East Japan Earthquake on March 11th, 2011, IRUV cut coat was a big boom as an energy saving measure in Japan, and it was introduced as 70% in Japan domestic share by Japanese construction and painting media.
- 2012~ With the start of subsidy from the country concerning installation of solar panels and the start of electric power purchase system by electric power company, solar self maintenance coat will be released as antifouling measures for solar panels.

Stage3) 2013~ : Started overseas sales promotion

- 2013~, **Certified as Tokyo-supported overseas products**, With the support from the Tokyo Metropolitan Small Business Promotion Corporation and JETRO, we started overseas deployment by participating in overseas exhibitions such as Southeast Asia, China, Germany. The Distributor development mainly started mainly in Southeast Asian countries.
- 2015~, Response to the fact that China's VOC regulations has become stricter, with the development of the photocatalyst deodorant antibacterial and VOC decomposition products, TOSHIBA, TOYOTA Central R & D Labs, etc., in collaboration with leading photocatalyst manufacturers, started selling to China with cheap price.
- 2015~, It expanded the world's highest anti-heat performance products with an infrared cut rate of 80% or more (50% of other companies) for IRUV Cut Coat.
- 2016~, It started to sell formaldehyde, acetaldehyde strong decomposition products. Beginning full-scale sales to the Chinese market, a huge hit.
- 2017~, It started to contract exclusive distributors for IRUV Cut Coat whole in the world.

Stage4) 2021~ : Started to sell Anti-fungal coating as the lowest price in Super Market industry in Japan. Started to sell interior insulation system by collaborating 3 products. = Triple far-infrared cooling / heating system

- ① Developed antifungal heat insulating interior paint and non-combustible heat insulating interior paint for indoor use.
- ② Started selling materials with training guidance directly to individual houses, small stores, and office users. = DIY-PRO support plan.
- ③ For Japanese supermarkets, we have developed a three-step method of removing mold, killing mold, and preventing mold at the lowest price in the industry from 1800 yen to 2800 yen per square meter.
- ④A business model that provides a comfortable and healthy space by collaborating 3 far-infrared radiation products: far-infrared radiation air conditioner "THEAR", IRUV cut coat (far-infrared heat insulation coat) for window glass, and far-infrared radiation interior paint. It built a model room where you can experience the "triple infrared cooling / heating system" in various parts of Japan.

Stage5) 2022~ Started New business model, "Challenge Energy Saving 40 " for chain stores from Japan. Plan to expand to the global market from now on.

For the chain store industry, as an energy-saving measure around air conditioning and outdoor units, we have started an initiative aiming for 40% energy saving by collaborating with the following 3 products.

- ① 25% with IRUV cut coat on window glass,
 - ② 15% with heat insulating painting around the outdoor unit,
- In addition, we have also developed and developed a Triple Guard coating application system, which is a rust prevention, heat insulation measure and anti-dust for folded-plate roofs, for chain stores. The IRUV Cut Coat application results of more than 1100 stores nationwide from November 2019 to February 2022 in Japan.

Japan's most advanced nanotech product manufacturer
with the world's No. 1, high performance, multi-functionality, and low cost

1、Anti-Heat nano-coating for window glass= IRUV Cut Coat Hyper-SP

20% to 30% reduction in air conditioning costs by thermal insulated coating on window glass of existing buildings = CO2 emission reduction by energy saving effect.
Sketch has developed a liquid insulation glass coat that can be easily coated on window glass with a roller. It improves the effect of infrared rays cut rate of 80% or more and ultraviolet rays of 99% or more just by coating on existing window glass. Durability is 15 years, On the contrary, general window film is 5 to 10 years durable. It lasts much longer than window film. It is the only one in the world that can be easily applied to window glass by roller application;, so anyone can learn coating techniques by online or offline training. Sketch's IRUV cut coat occupies 80% of the market share in Japan and is an energy-saving product with a sales record all over the world. In Japan, we successfully applied 1000 or more of chain stores during 2019~2022 in Japan.

2、Rust Proof, Anti-heat painting for the Surrounding Outdoor unit of chiller and Air-conditioning = Rustshield (Anti-Rust) & Thermo ECO Shield (Anti-Heat) & Super Glass Barrier (Anti-dust)

Developed Rust shield + Thermo ECO Shield + Super Glass Barrier= Triple Guard coating application system that reduces air-conditioning costs by15% or more annually by applying rust-proof, heat-insulating, and antifouling coats for corrugated metal roof, outdoor units and their surroundings.
Generally, Rust-Proof Market, Heat-Shielding Market, Anti-fouling Market are all different business.
If Customer wants to solve 3 problems of them once, It will be huge cost because each solutions are conducted by each special painting applicator companies.
On the contrary, Customer can't request one applicator company to solve 3 problems once by low cost. But Sketch can solve problem to supply low price due to develop each products by one company.
It means Applicator that bought products from Sketch can suggest low application cost for the customer.
Our Application Target is outdoor unit and surroundings installed on food market like Franchise Super Market for example because They use high expense for electricity bill every month due to using freezer, refrigerator, air conditioning for 24 hours everyday. We apply the surface of outdoor unit and installment ground under the outdoor unit, It is small area to apply because we don't focus on all roof area.
Of course, if customer has a budget for painting on the whole roof, It will be much better to perform the solution. But it will be expensive. But We propose to apply only surrounding outdoor unit.

3、Anti-Static, Super Hydrophilic Self-Cleaning Coat= Super Glass Barrier

1998, TOTO announced HYDROTECT, the photocatalyst, hydrophilic antifouling coat using titanium oxide, this has opened a new market in antifouling market of building, and the car. However, China, Southeast Asia, the Middle East, there are dirt and carbon sand lot, the photocatalyst coating using titanium oxide, have little effect.. So Sketch, has developed a coating material of super-hydrophilic antistatic anti-fouling self-cleaning by using a tin oxide SnO2 and SiO2 silica. We develop products that flow down with running water and rain in the super-hydrophilic it is difficult to stick the dirt.. And firmly adhered for inorganic material, outer wall, tile, and glass, there is a self-cleaning antifouling effect for long term. This product can be long-lasting coating one time, will be the main product of the aesthetic maintenance of the building in the future. We have a construction record of 10 million m² all over the world. Especially in China, Southeast Asia, and the Middle East, where there is a lot of exhaust gas and dust, the ultra-hydrophilic self-cleaning coat, which has an antistatic function, makes it difficult for dirt to adhere from the beginning and makes it easy to remove the dirt, is ideal. In 2019,

4、Patent No. 7146223; acquired on September 26, 2022. Antistatic coatings, antistatic glass substrates, and solar panels"

We have sold more than 10 million square meters of antistatic superhydrophilic self-coat including "Super Glass Barrier" for exterior walls for more than 20 years.
However, in high-temperature, low-humidity environments such as desert areas, where there is little rainfall, the antistatic performance deteriorates, and we have faced problems especially with solar panels.
We have now succeeded in developing a coating agent that exhibits strong antistatic performance of 10Ω4, high adhesion, high weather resistance, and high chemical resistance while maintaining a certain level of transparency by binding SWCNTs.
In addition, since the strong conductivity of SWCNTs can be applied to the back sheet to further dissipate heat, we will conduct many demonstration tests in the future.

Problem-solving business for existing buildings and another

Window glass heat, UV rays, condensation problems

Product; IRUV Cut Coat H-SP

Before
 CSEDA Split Transmission Meter
 VL 86%
 IR 37%
 UV 26%
 HOLD

Roller Application

After
 CSEDA Split Transmission Meter
 VL 75%
 IR 83%
 UV 99.4%
 HOLD

Dirt & Heat problem on the PV panel

Product; Solar Self Maintenance Coat CNT & Solar heat dissipation coat

Patent No. 7146223; acquired on September 26, 2022.

Rust & Heat problem on Outdoor Unit & surrounding

Product; Rust shield & THERMO ECO SHIELD

71.3°C

38.8°C

Mold problems in the room

Product; Bleach Coat & Antifungal infiltrates & MK Clean Coat

Dirt problem on the exterior

Product; Super Glass Barrier

Coated Uncoated

5 years later

Air pollution Problem in indoor spaces

Product; Clean Air Guard SP, Clean Light Coat

Anti-Bacterial

Uncoated cloth

Coated