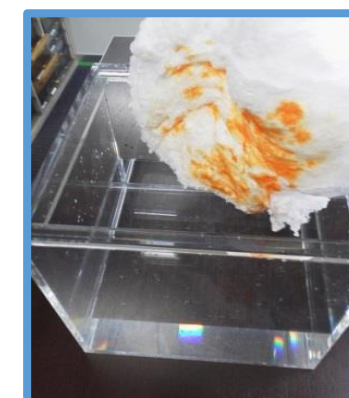
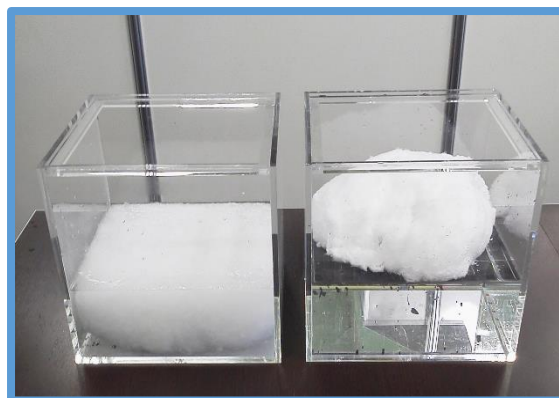
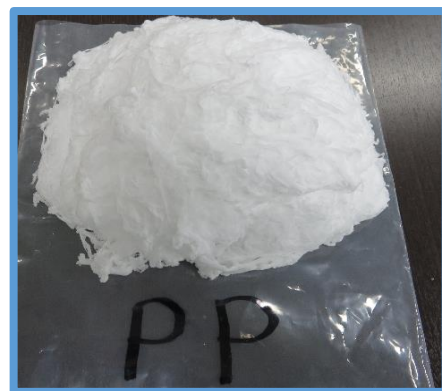


Mass Manufacturing of High-Performance/Future-Oriented and Highly Functional New Material – Nanofiber – Achieved

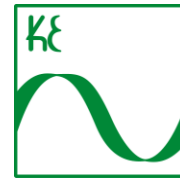


We displayed the Nanofiber Mass Manufacturing Device at the New Environmental Exposition 2015”

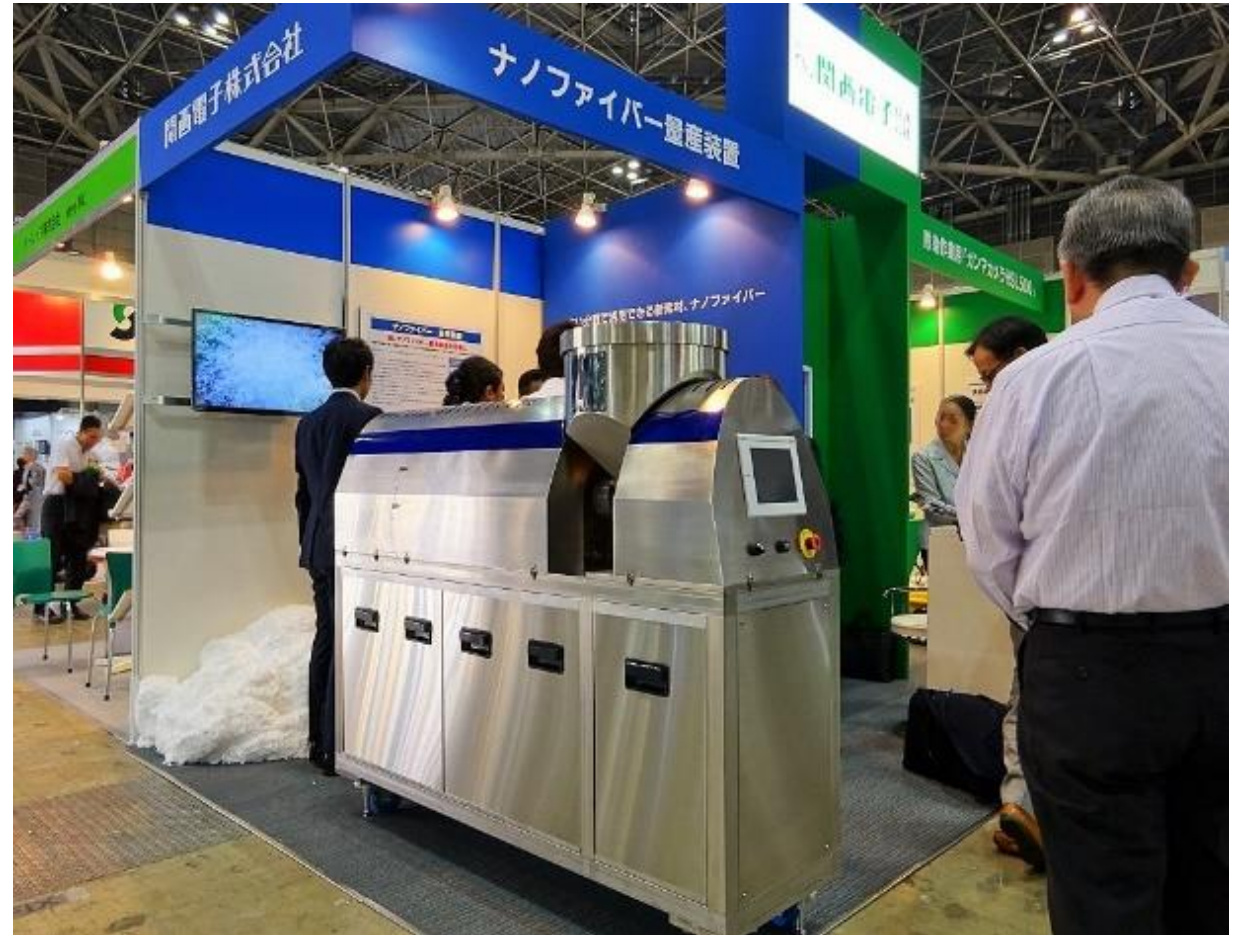
We aim to promote the development of applied technologies for a wide variety of applications.

A new material, nanofiber, is considered revolutionary in the third millennium. Reports imply that market analysts anticipate the market for nanofiber materials will experience the fastest growth in the coming decade.

With its unique performance, nanofiber can be used in many areas in ways that have not been seen before. It has a vast specific surface area, porosity, number of micropores and microfiber diameter. If you were to connect all the fibers of about one gram of nanofiber end to end, the length would be equivalent to one revolution around the earth at the equator.



関西電子株式会社



Oil absorbing material

With an extremely high adsorption rate, it adsorbs an amount of oil more than 50 times its own weight. Excellent for recovery and cleanup of oil spills in rivers and on coastlines, as well as for the recovery treatment of oil in an industrial oil-water separation tank. Once the oil has been recovered, it can be recycled as oil material or as a combustion improving agent, and in this way it does not any place strain on the disposal system. Other effective uses of this material include the prevention of machine oil leakage from equipment and the prevention of oil mist generation.

When used as a material to treat BOD (biochemical oxygen demand) and normal hexane in drains, grease traps, and sewage tanks located in complex facilities (airports, supermarkets, food courts, restaurants in Chinatown, etc.), its cleaning function is very highly rated. It has attracted attention as a new material to address environment-threatening pollutants.

* Advantages compared to our competitors' products: can recover oil without absorbing water due to its water-repellent properties; can be reused, recycled, or converted into oil without the need for disposal.



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Insulation material

The vast specific surface area of nanofibers contains air layers to keep out the heat and cold.

A large variety of applications: homes, buildings / combustion devices / automobiles / heating devices, cooling devices / household appliances / vinyl houses, greenhouses / boilers / dew condensation prevention containers, freight containers / vehicles / vessels / airplanes

Features of nanofibers made with melt spinning technology

Feature 1 Excellent insulation

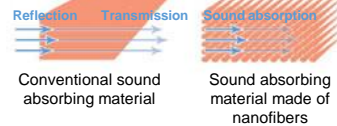
Fiber diameter: ϕ less than 1 μm

Weight: 0.05 g/cc

Thermal conductivity: 0.03 W/mk

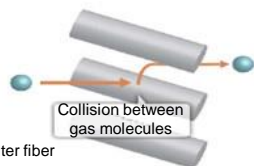
Light-weight
High insulation

When compared to material of the same volume, nanofiber has a greater surface area (\approx more small ventilation holes)



Feature 2 Excellent oil-in-water separation capacity with high water-repellent and lipophilic properties Can adsorb oil 36 times more than its own weight

Feature 3 Minimal filter pressure drop



Regular filter fiber



Nanofiber filter



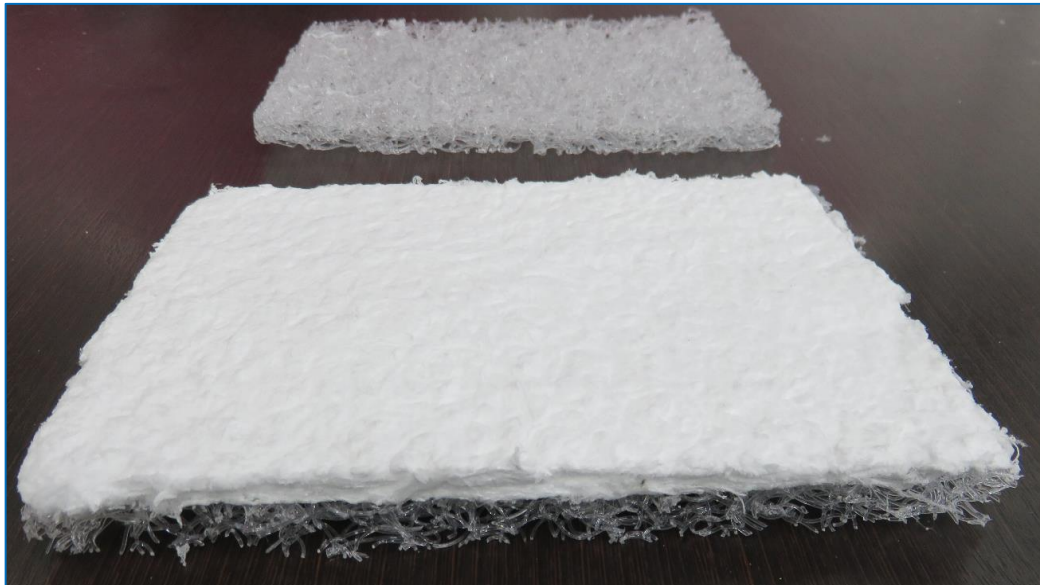
Heat insulation material

Greater heat retention, lighter, and less expensive compared to down, it shows great promise for marketability.

The development of a wide range of products, including bedding / clothing (cold-proof), apparel products, sportswear / household appliances / miscellaneous goods, is expected.

Use in a special heat / cold insulation system is under consideration.

Products using a combination of existing and new heat insulation materials are currently under development.



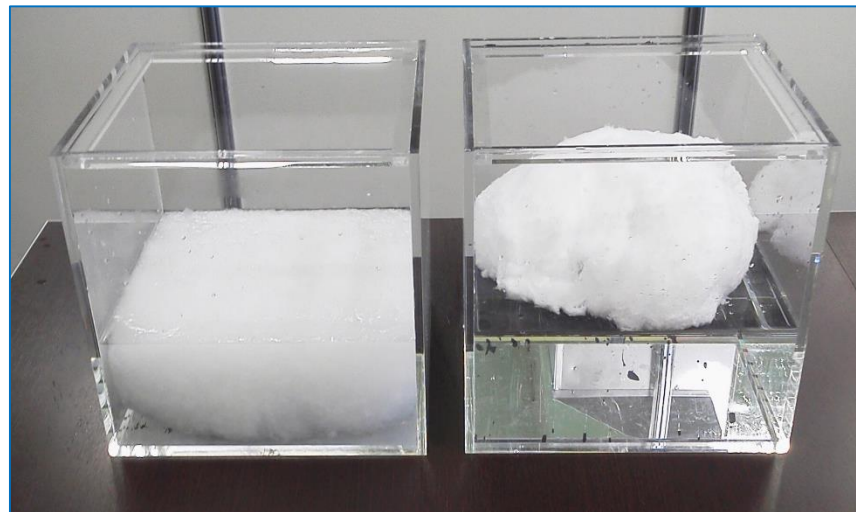
Agriculture material

The agriculture applications of this material, such as hydrophilic seedling mats, watering mats and greening materials, can lead to increased productivity and reduced costs. It helps with planning for soil remediation and green space expansion to achieve stable production control. Biodegradable polylactic acid (PLA) products are promising as a new eco-friendly recycled material that can be reduced to soil.



Filtering material

Development of air filters, water filters, decontamination filters, virus adsorption filters, and materials for addressing PM2.5. The diameter of the nanosized fiber ensures minimal pressure drop and a reduction of power consumption by the fan motors of intake and exhaust filters. Its hydrophilic properties also allow for liquid filtration.



Features of nanofibers made with melt spinning technology

Feature 1 Excellent insulation

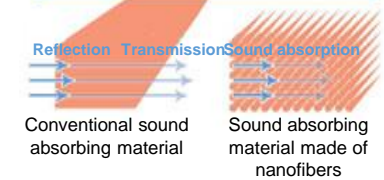
Fiber diameter: ϕ less than $1 \mu\text{m}$

Weight: 0.05 g/cc

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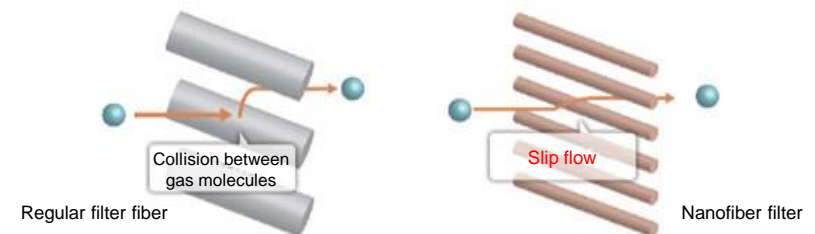
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Feature 2 Excellent oil-in-water separation capacity with high water-repellent and lipophilic properties Can adsorb oil 36 times more than its own weight

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New material

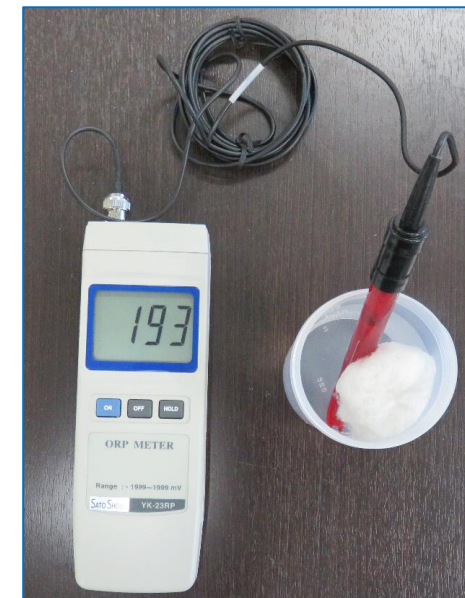
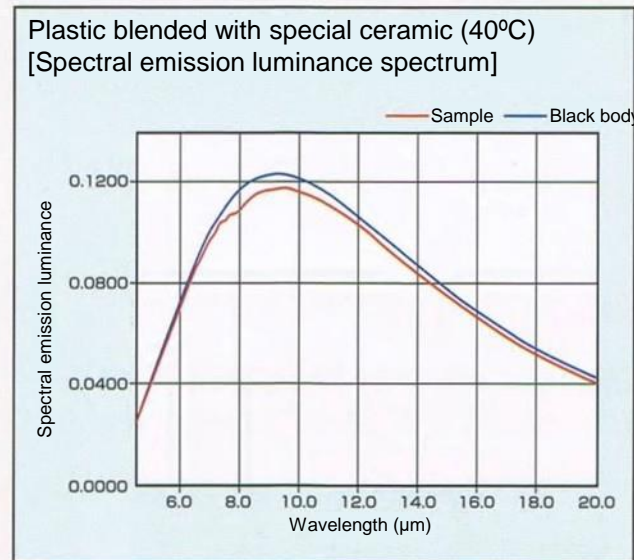
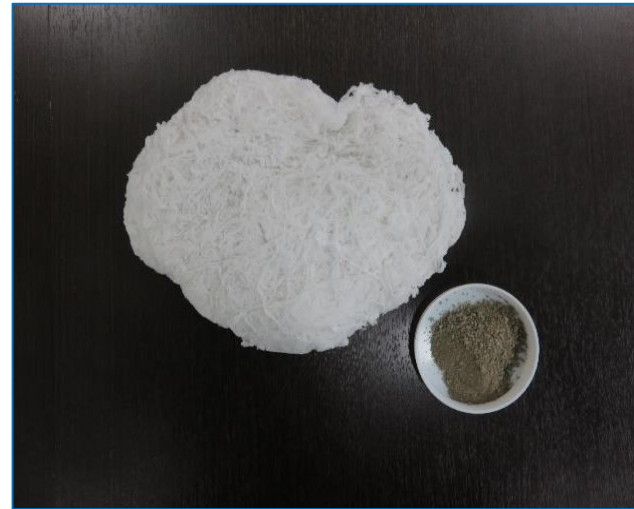
Descriptions of the “new material” for medical use

(Tentative name: Nanocera Sheet)

Uniquely functioning product in which specially processed natural ceramic is blended into the nanofiber (ingredient: PP)

- Specially processed natural ceramic blended with nanofiber which have excellent specific surface area creates a synergistic effect: the “growth rays” (= far infrared rays) emitted from the specially processed natural ceramic causes the microvibration of water in the body (intracellular fluid, blood, etc.) which stimulates activation and increases antioxidant action. This material takes a variety of forms, such as bed sheets and comforters, for the benefit of the elderly and patients, and to improve fatigue and poor physical condition.

When this fiber was added to the tap water in Tokyo, the oxidation-reduction potential was reduced from 619 to 193.



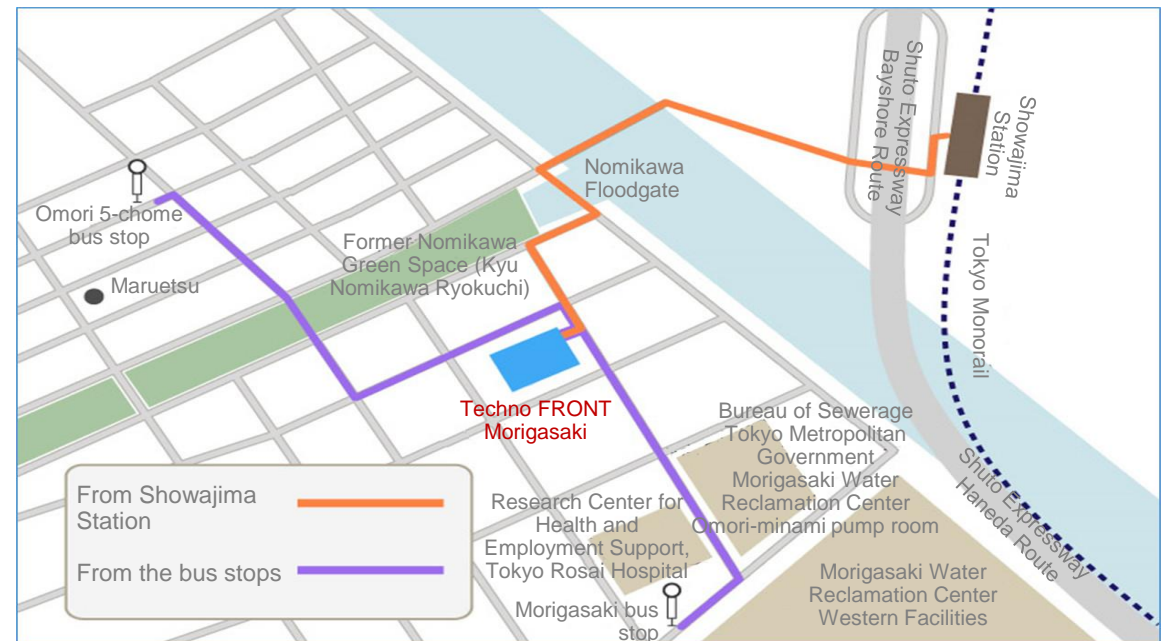
Device (Specifications)

1. Name: Melt Spinning Machine (Model: KNT type)
2. Production process: This melt spinning machine mass-produces long fibers by melting polymer resin which is extruded from a fine nozzle under high pressure. The fibers can be between 500 to 900 mm depending on the polymer materials used.
 - (1) Material management: Pay extra attention to temperature, humidity, and contamination when storing materials.
Environment temperature: 10°C-40°C
 - (2) Material feeding method: Feed raw materials into the machine hopper according to the determined operation time.
 - (3) Nozzle management: A nozzle that cannot be visually inspected needs to be cleaned every time the operation is stopped.
3. Operating time: About 10 hours per day. Guaranteed for 1 year.
4. Machine external dimensions: Length 1,820 mm; height 1,542 mm; width 515 mm
5. Cylinder center height: 1,090 mm
6. Machine body weight: 390 kg
7. Rated input voltage: AC 200V / 3-phase / 50/60 Hz (specifications applied within Japan)
8. Power consumption: Total 14 kW
9. Machine body material: Stainless



Company Profile

Company name	Kansai Electronics Co., Ltd.
Head office	Techno FRONT Morigasaki #208/509 4-6-15 Omori-Minami, Ota-ku, Tokyo 143-0013
Telephone	03-6423-2858
FAX	03-6423-2857
President and CEO	Kunihiro Shinji
Paid-in capital	10,000,000 yen
Founded	February 1968
Business description	Import/export, manufacturing, repair and calibration of DC high-voltage power supplies, electrostatic products, and general electronic devices / special power supplies / radiation-related products
Nearest stations	10-minute walk from Tokyo Monorail "Showajima Station" 5-minute walk from Keihin-Kyuko Bus "Morigasaki" bus stop

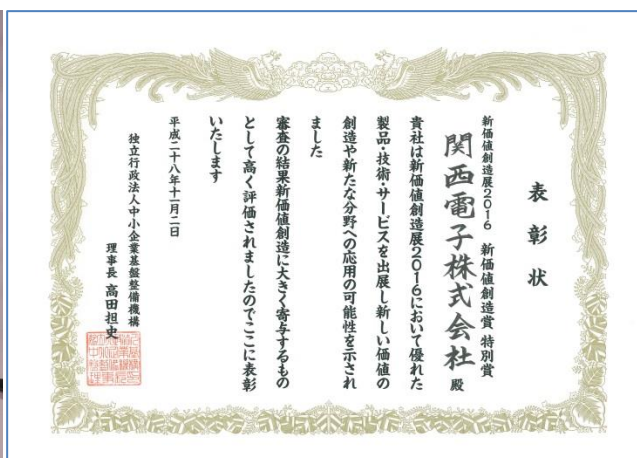


“Special Award” received at the New Value Creation Exhibition 2016

The “New Value Creation Award” and “Special Award” are given to companies which are expected to contribute to the creation of new value or have made significant contributions to new value creation. Kansai Electronics Co., Ltd. is one of the recipients of the “Special Award” for its **nanofiber mass manufacturing device**.

About the New Value Creation Exhibition

“New Value Creation Exhibition 2016” (The 12th Small and Medium Enterprise Exhibition Tokyo 2016), which gathered together small and medium-sized companies from all across Japan to display their outstanding products, technologies, and services, was held at Tokyo Big Sight from October 31 to November 2 (organizer: Organization for Small & Medium Enterprises and Regional Innovation, JAPAN). With the idea of creating new ideas and new business opportunities, 582 small and medium-sized companies and groups exhibited their products, attracting 50,000 visitors over three days. On Monday, November 2, the last day of the exhibition, the award ceremony for the “New Value Creation Award” and the “Special Award” was held at Tokyo Big Sight, and we received a certificate of merit from the Organization for Small & Medium Enterprises and Regional Innovation, JAPAN (Hiroshi Takada, Chairman & CEO). Award recipients are the following six companies.



[New Value Creation Award]
Usuda Research Institute & Systems
Corporation (Tokyo)
Komatsuseiki Kosakusho. Co., Ltd. (Nagano)
Tsukuba Technology Co., Ltd. (Ibaraki)

[Special Award]
Arena Co., Ltd. (Fukushima)
Kansai Electronics Co., Ltd. (Tokyo)
Technos Japan Corp. (Tokyo)

Contact:

Kansai Electronics Co., Ltd. (Contact persons: Kondo / Shinji)
Techno FRONT Morigasaki
4-6-15 Omori-Minami, Ota-ku, Tokyo 143-0013
Telephone: 03-6423-2858 FAX: 03-6423-2857
E-mail: kondoh@kansaidenshi.co.jp



”Special Award” received at the Tokyo International Industry Exhibition 2017 Going-Global Innovations Competition

In a competition where companies providing innovative and promising products, technology and services are selected, Kansai Electronics Co., Ltd.’s product, “**Nanofiber Melt Spinning Machine Production Model**” has been awarded the “Special Award”.

About the Industrial Exhibition · Going Global Innovations Competition

By presenting an award to innovative and promising products, technology and services developed by small and medium enterprises, “The Going Global Innovations Competition” aims to promote the development of new products and new services, as well as developing new markets, taking future medium - to long - term business opportunities into account. In 2017, there had been 98 applications for the products · technology (venture technology) category, 52 applications for the service category, out of which 32 companies have been presented with an award for outstanding products and services.

The Awards Ceremony took place Wednesday, November 15th, 2017, at the Atrium of Tokyo Big Sight. The award recipients received an award certificate together with a financial incentive for development/sales etc. as supplementary prize from the Tokyo Metropolitan Government.



【Grand Prize・Excellence Award・
Encouragement Award】 5 Companies

Aioi Systems Co., Ltd. (Tokyo)
Evixar Inc. (Tokyo)
Venture Material Co., Ltd. (Tokyo)
Qconcept, Inc. (Tokyo)
Japan Analytical Industry Co., Ltd. (Tokyo)

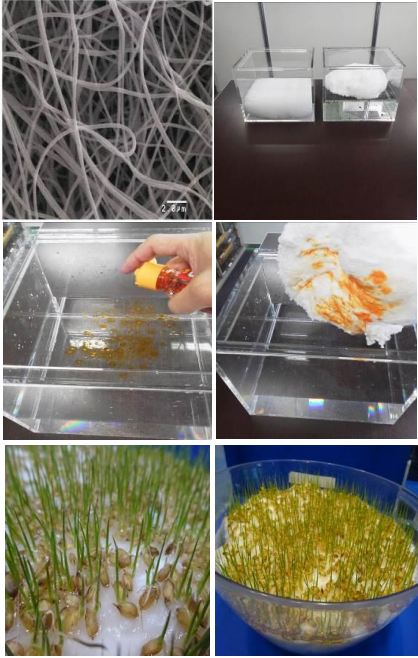
【Special Award】 12 Companies

Inter Reha Co., Ltd. (Tokyo)
Kansai Electronics Co., Ltd. (Tokyo)
Kitii Corporation (Tokyo)
SoundFun Corporation (Tokyo)
Tanaka Electric Laboratory (Tokyo)
Tosei Electrobeam Company Limited (Tokyo)
Trunk Solution Corporation (Tokyo)
Triple W Japan K.K. (Tokyo)
Nano Frontier Technology Co., Ltd. (Tokyo)
Hakko Corporation (Tokyo)
RKC Instrument Inc. (Tokyo)
Robit Inc. (Tokyo)

〈Contact〉

Kansai Electronics Co., Ltd. (Contact persons: Kondoh / Shinji)
Techno FRONT Morigasaki
4 - 6 - 15 Omori-Minami, Ota - Ku, Tokyo 143 - 0013
Tel : 03 - 6423 - 2858 Fax: 03 - 6423 - 2857
E - mail: kondoh@kansaidenshi.co.jp

Technology–Appealing Sheet

Company Name	Kansai Electronics Co., Ltd.			Technical Field	Designing, Development and Manufacturing of Equipment		
				Keyword	Nanofiber Melt Spinning Machine (production model)		
Founded	February 21 ^{st.} , 1968			Address	Techno FRONT Morigasaki #208・509 4-6-15 Omori-Minami, Ota-ku, Tokyo 143-0013		
Capital	10,000,000 yen	Number of Employees	10				
Contacts	Division	Nanofiber Division					
	Contact person	Masahiro Kondo					
	TEL	03-6423-2858			FAX	03-6423-2857	
	URL	http://www.kansaidenshi.co.jp					
	E-mail	webmail@kansaidenshi.co.jp					
Main Business	Manufacturing and Sales of Radiation Measuring Instruments, High-Voltage DC Power Supplies, Electrostatic Instruments, Nanofiber Melt Spinning Machine, High-Voltage Freshness Preservation Unit, Biomass Reclamation Device etc.						
PR	We will propose creation of new products which are epoch-making and unique that will contribute to the spreading of applied technological development of the various application of the Nanofiber Melt Spinning Machine which made mass-production of high-performance, future-oriented, highly functional material nanofiber, possible.						
PR details	<p>Our aim is to spread the applied technological development of nanofiber, a new material that can be put into practical use in a wide range of fields such as sound absorption, insulation material・oil absorbing material・heat insulation material・high-performance textile material・agriculture material・decontamination, virus protection,・air filter, underwater filter etc.</p>						
					<p>With nanofiber, strong molecular forces work allowing passage of air yet securing absorption power.</p> <p>Nanofiber was extremely expensive because it could not be mass produced, plus its application had not been developed, but thanks to the melting method, we can now mass produce fiber that is approximately 500 nano.</p> <p>Wide variety of fiber ranging from chemical products such as polypropylene, polyurethane, polyethylene, polyester, etc., to biodegradable polylactic acid (PLA) can be manufactured.</p>		
Remarks	<p style="color: red;">Having been selected as a recipient of Tokyo Metropolitan Government 2015 “Customer Needs Evaluation・Improvement Support Subsidies” as well as the “Next Generation Innovation Creation Project 2020 Subsidies” of the same year, we are striving to further enhance productivity, and to develop and manufacture a machine for shaped products. We have received a “Special Award” at the New Value Creation Exhibition 2016. We have been interviewed by the Organization of Small and Medium Enterprise and Regional Innovation, Japan, and introduced in “New Value Creation NAVI” . http://shinkachi.smrj.go.jp/navi/webmagazine/theme/160030.html</p>						