COMPANY GUIDANCE

CARBON FLY

Turning fantasies into ideas

with carbon nanotubes

CARBON FLY

VISION

With execution to the future

CARBON FLY

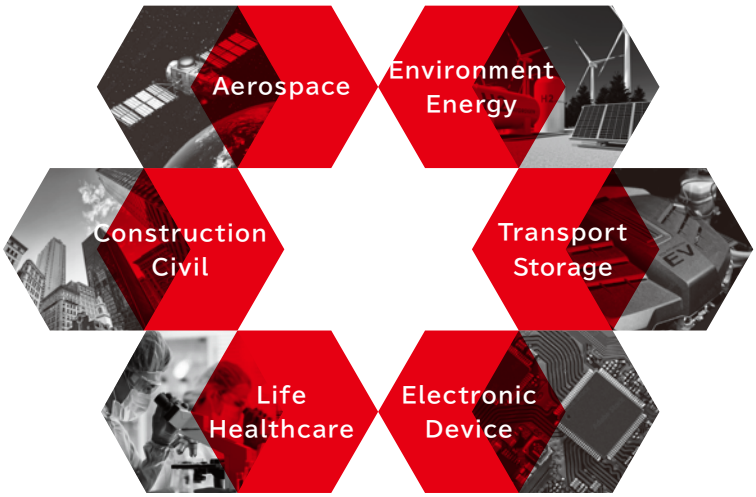
In 1991, Carbon Nanotubes (CNTs) were discovered in Japan.
Recently, as their performance and properties have been elucidated,
the industrial application have been expanded.
Nowadays industry frontrunners focus on CNTs
as a new structural or functional material of future products
that are impossible with others.
Moreover, CNTs are carbon fixation material.
We are developing the process of CNTs production from CO2,
with commercial viability.
We believe our CNTs make a significant contribution
to the carbon-neutrality of the world.

1 From Space to Life science

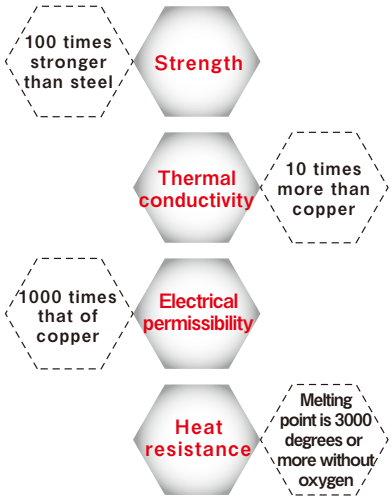
Material enabling quantum leap.

CNT have 100 times stronger mechanical strength than steel, yet lightweight and flexible.
CNT are expected to be used as structural materials in the fields of space development and aeronautics, as well as construction and civil engineering.
CNT are also expected to be utilized as a functional material and composite material in the semiconductor and energy sectors due to electrical conductivity resistance, which is said to be approximately 1000 times higher than that of copper.
CNT also have extremely high thermal conductivity and heat resistance.
Furthermore, excellent chemical stability of CNT brings high safety for the human body, which attracts attention in the medical and life sciences fields. CNT are long-awaited material in every industry.

Wide range of potential industries

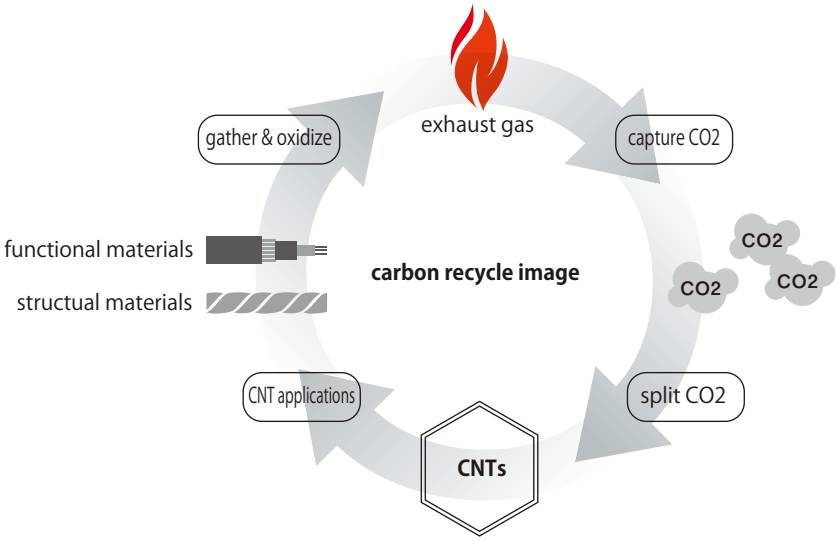


Material properties beyond common practice



CNTs are carbon material, which contribute to carbon neutral.

As a technology-oriented company in this planet, environmental impact is a key driver of our R&D roadmap.
Compared with carbon fiber or carbon black, CNTs production process consumes less energy.
CNTs has potential use of metal replacement, which decreases dependence to limited natural resources.
Researchers also focus on CNTs from the CCUS (Carbon dioxide Capture, Utilization and Storage) viewpoint.
We are in the phase of increase efficiency of CNTs production process using carbon dioxide as raw material. This contributes circular economy and sustainable world.



TECHNOLOGY

Despite CNTs have 30 years history,
there have been challenges for commercial use.
Quality, quantity and cost.
We overcome them with innovative mass production technology.
In addition to the high quality as material,
our CNTs mass production equipment is space-saving and energy-saving.
With CARBON FLY's technology,
our CNTs will serve for various applications across industries.

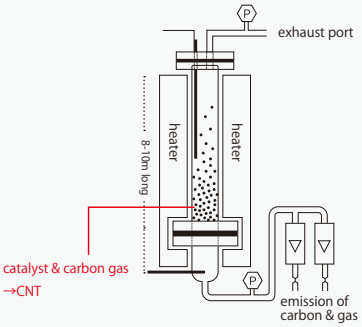
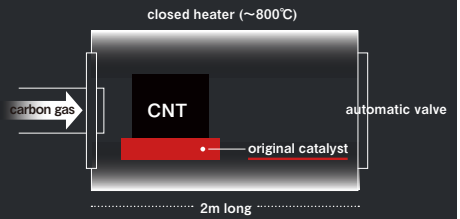
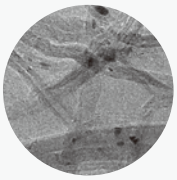
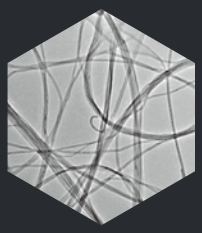
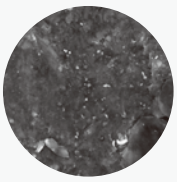
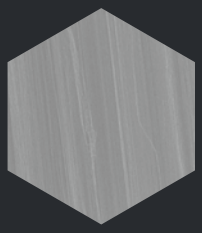
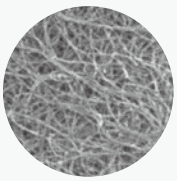
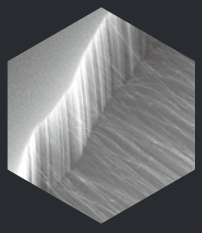
CARBON FLY

Through innovation ideal to reality

High quality, low variation, with mass production technology

Quality as material with highest standards.

Conventional CNTs production process is growing CNTs from a mixture of catalyst and carbon. However, CARBON FLY has developed a unique technology to grow CNTs with uniform control of diameter and length by separating the catalyst and carbon. This has enabled the mass production of CNTs of much higher quality, compared with conventional production process.

Conventional		CARBON FLY innovation
 Catalyst & carbon gas are mix-sprayed into a huge heater.	Production Method	 CNTs grow from a substrate which has been coated catalyst.
 catalyst and contain impurities	Purity	 contains little catalyst and impurities
 uneven length and diameter	Shape Distributuon	 Uniform distribution by controlling length and diameter
 CNTs are irregularly entangled and difficult to process	Processability	 Can be processed into fibers and films

More like a device, than an equipment. Space saving design.

Our CNTs production equipment is far more compact than conventional ones.
Moreover, it is designed to be installed in offices, with office power supply.
It is no longer a plant, but a device.
Its design addresses potential requests for in-house production of customers.

PRODUCTS

Bringing innovation to society

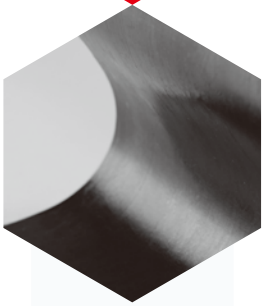
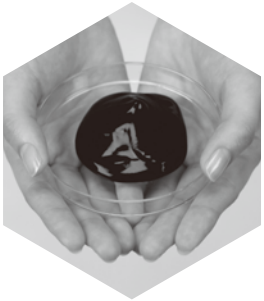
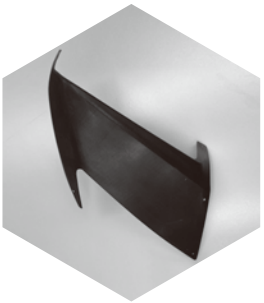
CARBON FLY

Until recently, CNTs have been used in powder form.
Our new production technology enables offering CNTs
in the form of films and fibers
so that applications have been extended.
We are also focusing on building support systems,
such as sample research and the providing dispersion technology,
to accelerate the development of products made from CNTs.

A variety of CNT morphologies as your needs and purposes

Provide not only CNT powders, but also CNT films or CNT fibers.

We offer high quality and uniformity of CNTs with various product line-ups.
The basic form is “powder” with no secondary processing.
We also provide “paste (liquid)” added water or organic solvents to our powders.
SWith high spinnability of our CNTs, we can provide “fiber” and “film” with no additive.
We support wide range of industrial fields with clients through developing various applications such as CNTs added polymers, CNT-CFRP composites.

	POWDER	FILM	FIBER
			
Product Features	It can be combined with other materials to add new functions and properties; electric conductivity, mechanical property etc.	It can be formed into thin film shapes, making it easy to control mechanical properties by lamination. We can also supply it as prepregs impregnated with polymer.	Our homogeneous CNTs are easy to twist into fibers. Therefore it can be used as cable or wire form.
Examples			
Aerospace	Aero Engine	Satellite Structure	Thether for Satellite
Environment & Energy	Lithium-ion Battery	Wind Power Blade	Transmission Cable
Transport & Storage	Automotive Tire / Rubber	Automotive Parts	High-pressure Hydrogen Tank
Life & Healthcare	Medical Instrument	Golf Club / Fishing Rod	Medical Equipment
			
	Conductive Paste	Motorbike Cowl	Thether for Satellite

Support to accelerate new product developments.

We can adjust the length of CNTs in the range of 10-1000μm.
We also have the advanced cellular dispersion technology which disperse CNTs from a dense state.
These technologies enable to be obtained the desired functions and properties easily and to develop new materials and products smoothly.

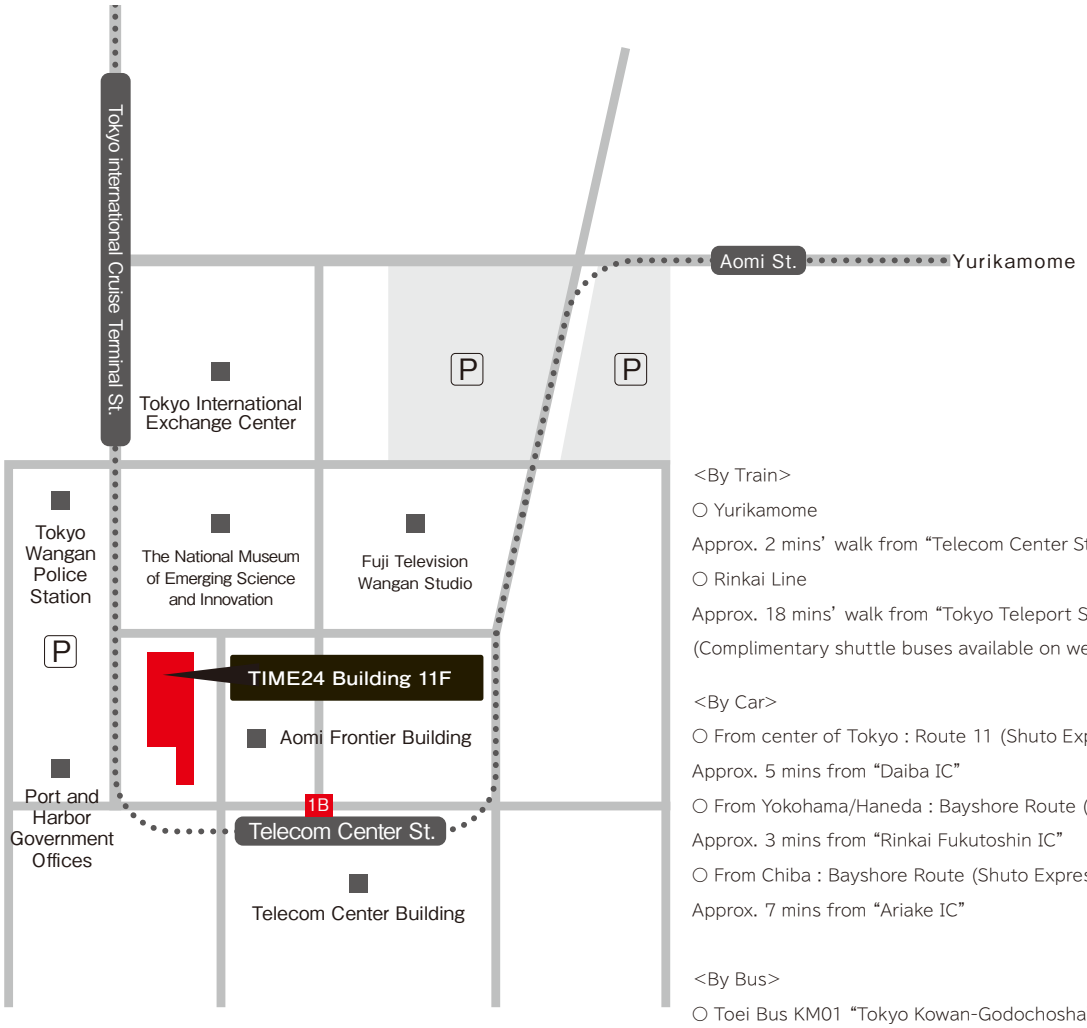
PROFILE

To achieve the earliest social implementation of CNTs. This is our principle and goal.
We try to change ideal imaginations into realities in the future society
through popularizing this material with huge potentials.
We want to accompany with people who never give up to pursue ideal ways.
To become your partner, CARBON FLY will keep improving our technologies.

We'll be your hope to achieve your dreams.

Company Overview

Name	CARBON FLY, Inc.
Head Office	Time 24 Building 11F, 2-4-32 Aomi, Koto City, Tokyo #135-0064, Japan Tel +81-3-3599-5257
HP	https://carbonfly.co.jp/
Established	January 31, 2022
Paid-in Capital	1,000,800,000JPY (capital reserve included)
Main Business Field	1_Carbon Recycling Business 2_Research, Development, Manufacture and Sale of nanocarbon materials and its related products 3_Development, Manufacture, Sales, Installation, Maintenance of facilities & peripheral equipment, etc., related to nanocarbon materials and its related products 4_Consultation & Consigned development of nanocarbon materials
Principal Shareholders	KANEMATSU CORPORATION, F.C.C. Co., Ltd.
Transfer Agents for Common Stock	Mizuho Bank, Ltd., Sumitomo Mitsui Banking Corporation
Number of Employees	33 (as of July 1, 2023)
Representative	Fei Deng



<By Train>
○ Yurikamome
Approx. 2 mins' walk from "Telecom Center St."
○ Rinkai Line
Approx. 18 mins' walk from "Tokyo Teleport St."
(Complimentary shuttle buses available on weekdays)

<By Car>
○ From center of Tokyo : Route 11 (Shuto Expressway)
Approx. 5 mins from "Daiba IC"
○ From Yokohama/Haneda : Bayshore Route (Shuto Expressway)
Approx. 3 mins from "Rinkai Fukutoshin IC"
○ From Chiba : Bayshore Route (Shuto Expressway)
Approx. 7 mins from "Ariake IC"

<By Bus>
○ Toei Bus KM01 "Tokyo Kowan-Godochosha"