Vol.16

Confidential

Company Introduction

- Our Technologies and Products -

EXCELSIOR

Excelsior, Inc.

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EXCELSIOR

Company Overview

We provide sanitation tablets, different types of portable toilets working without electricity. Eco-friendly!

Company Name	Excelsior, Inc.			Excreta Treatment Tablets		
Established	April 15,1997	Products				
Location	3-30-2 Wakabayashi, Setagaya-ku, Tokyo 154-0023 Japan			Portable Toilet// <i>Mt. Fuji Toilet</i>		
Business Domain	Manufacturing			Poncho Type	Panel Type	

Obtained Type 3 Medical Devices Manufacturing and Marketing License



History

Excelsior, Inc. was established in April 1997 in Tokyo, Japan and started environmental services specialized in products for natural disasters, emergencies and outdoor living as well as dehalogenation processes to effectively treat dioxins and PCBs contamination. Since the beginning, our mission has been to protect the environment. We continue working on our projects in the field of environment to pursue the mission.

In December 1999, we conducted research on the dehalogenation technology to degrade hazardous substances like dioxins and PCBs with several other companies. This led to the establishment of the facility at Kawanabe town, Kagoshima Prefecture in Japan, where additional experiments and testing were carried out to evaluate the results of our products. The dehalogenation technology was shared with Tobishima Corporation in 2001 and Obayashi Corporation in 2002. Both companies standing at the forefront of construction and engineering industries in Japan started using this technology to reduce environmental burden. After successful experiments and testing, the operation of the facility officially began in December 2002.



Facility in Kawanabe town

Since then, we have invented and provided sanitation powder and tablets to local governments, private companies and individuals for different purposes of emergency actions, medical care and outdoor living. Our kits containing the powder and tablets can help safe removal of human waste without power and plumbing system. We also offer full customer support, maintenance and consulting for our products.

We strongly believe that protecting our environment is one of the best investments for the future. Environmental issues are not just a concern in politics, education and science but also the one that business community has a responsibility to address at unity. Our products have been successfully used to eliminate bacteria and odor from human waste in several cases of emergency in Japan. Following the success, we have been expanding our business to the areas of home care and pet care as well as outdoor living. In 2014, 15,000 sets of portable eco-friendly toilets called "*Mt. Fuji Toilet*" have been distributed to mountain climbers at Mt. Fuji. According to our survey, 95% of the climbers commented that there was no odor. Our products have proven to be an effective option in order to solve the excretion issues on Mt. Fuji. As such, we are at the forefront of using science and technology to create eco-friendly products for neutralizing human waste.

SUSTAINABLE G ALS



Our Hygienic Eco-toilet System <u>is the world's first technology</u> that uses only a special treatment agent to disinfect excrement and remove malodors <u>that generates no CO2 emissions</u>.

Our Products

Our products provide you a solution in different scenes!

Issues and Needs	Our Products for Solutions	How to Use		
1 When emergency sanitation is needed e.g. infectious diseases, natural disasters, refugee camps	Excreta Treatment Tablets Tablets that made from slaked lime and calcium have proven to eliminate germs and odor.	Place excreta treatment tablets into a vinyl bag.		
2 When there is no toilet available in a short term e.g. natural disasters, refugee camps, outdoor living and driving	Portable Toilet// <i>Mt. Fuji Toilet</i> -poncho type- Kit contains excreta treatment tablets and portable poncho-type toilet to protect users' privacy.	Place paper frame, cover with a vinyl sheet and put the tablets into the vinyl bag. Wear the poncho for privacy. After defecation, tie the bag and dispose.		
3 When there is no toilet available in a longer term e.g. natural disasters, refugee camps, outdoor living	Portable Toilet //Mt. Fuji Toilet -Panel Type- Portable panel type toilet "Mt. Fuji Toilet" is easy to assemble and works without water and electricity. Excreta treatment tablets are also included.	Remove the toilet and take out the waste bag. Bury the waste bag in disposal site.		

More about Portable Panel-Type Toilet

Mt. Fuji Toilet is easy to set up. Inside the toilet, "Excreta Treatment Tablets" are installed in the box. Details can be adjusted according to needs in different situations.



(1) Defecate.



(2) Step on the pedal after defecation. Valve **A** opens and the waste falls onto valve **B**. At valve **B**, the waste is mixed with the tablets, then falls automatically with its weight into the plastic container placed below. At the same time, new tablets are supplied onto valve **B**.



(3) Remove the toilet to take out the bag containing the waste.



Mt,Fuji Toilet (Japanaese Name [Ho!Toilet])

(4) Dig the ground to bury the waste in disposal area.The waste is hygienically resolved in soil by biodegradability adjustment method.

The waste can be used to help afforestation by mixing with soil. This is an ecofriendly way of disposing of human waste!

Where Our Products Work (1)

Disaster Areas



Problems

 Infrastructure is severely damaged. No power and no water is available.

Solutions

- Use "Excreta Treatment Tablets" with plastic bag. Bacteria and odor can be eliminated without water and electricity.
- In case of no toilet, our portable eco-friendly toilets both in poncho-type and panel-type are of great use to treat human waste.
- Waste can be buried at disposal areas and hygienically resolved in soil.

Where Our Products Work (2)



- Place vinyl bag and "Excreta Treatment Tablets" in the bag. The tablets have proven to eliminate bacteria and control odor over a month.
- In medical tests, "Excreta Treatment Powder" is effective to control odor.

Where Our Products Work (3)

Refugee Camps Remote Areas / Mountains

Problems



Even if you find one, it is not hygienic.

Solutions

- Our portable eco-friendly toilets can be used according to the situation. The attached tablets eliminate bacteria and odor in the toilets.
- Waste can be buried hygienically or utilized as fertilizer in the garden. It can be used as water retention materials for afforestation.

PRODUCT INTRODUCTION HO! TOILET TABLETS

- ~ Tablet Type ~
 No unpleasant work after processing
- Eliminates bacteria and bad odors Even after 6 to 12 months, there are no bacteria or odors

(1)Set vinyl bag in

the toilet without

running water

• We will not only address disaster preparedness but also focus on preventing the spread of gastrointestinal infections.

HOW TO USE

(2) Place Hot! Toilet

tablets in the vinyl bag



PRODUCT INTRODUCTION HO! TOILET

[HO! TOILET(PORTABLE)]

- Portable Ho! Toilet is also popular
- •It comes with a poncho so you can use it anywhere
- •It's in a drawstring bag, highly recommended for women





For disaster management, our tablets and portable toilets are provided to;

- ✓ Japan Ground Self-Defense Force, Japan Maritime Self-Defense Force
- ✓ The government of Peru
- ✓ Tokyo Electric Power Company, Incorporated, Tokyo Gas Co., Ltd., NIPPON TELEGRAPH AND TELEPHONE CORPORATION (Utility companies)
- NHK, TBS (Mass media)
- ✓ Bank of Tokyo-Mitsubishi UFJ, Ltd., Sumitomo Mitsui Banking Corporation, Mitsubishi Heavy Industries, Ltd., Hitachi, Ltd., Kobe Steel, Ltd., Rakuten, Inc., ITOCHU Corporation, Narita International Airport Corporation, and Hino Motors, Ltd.
- ✓ Universities and schools, such as Meiji Gakuin University, Tokyo University of Agriculture, Soka Gakuen, Takushoku University, and Seikei Gakuen
- For the climbing in the mountains, our portable toilets are provided at;
 - ✓ Mt. Fuji (in cooperation with Yamanashi Prefecture)
 - ✓ Norikura Highland (as mountain toilets in Japan North Alps)
 - ✓ Mongolia (Ulan Bator)

and many others...

IN-DASH (Deodorizing Agent for Endoscope Waste Liquid Collection Container)

What is **IN-DASH** ?

This product removes bad odor of endoscope waste fluid <u>Adopted and used at : Chiba University Hospital / Fukushima Medical University / Kanto Rosai Hospital</u> Our product, to deodorize waste fluid from endoscopes has been selected and in use at Chiba University Hospital for over a year. Since using our product, we have received a great feedback as there have been no complaints about bad odors in the endoscopy rooms.





Endoscope Body

Place IN-DASH powder here



Endoscope Waste Bottle (Disposable Type)



IN-DASH (Endoscopes for Operating Rooms)

IN-DASH Bottle

The waste liquid collection bottle solidifies waste liquid into a jelly, removes bad odors, and is commercialized as a sterilizing tablets and bottle in an integrated product. This product is eligible for the business restructuring subsidy. Through joint research with Chiba University, it has been proven to be effective against all types of bacteria and viruses. (There is a demonstration report from Chiba University)



our product helps alleviate the unpleasant odor and appearance

NEW

IN-DASH Bottle

Option that addresses the specific needs of endoscopy technicians based on their feedback

After conducting interviews with endoscopy engineers, we have developed a solution to prevent loss during tissue extraction. The inner plate on the underside of the cover is designed to capture any tissue lost during the extraction process. Additionally, a dedicated polyp catcher (sold separately) can also be attached.

Inner plate on the back of the lid





Polys can be picked up at inner plate



Traditional Polyp Catcher



Our Polyp Catcher



IN-DASH Bottle Holder [stand]

IN-DASH (Endoscopes For Operating Rooms)

IN-DASH 2nd Generation Bottle now available in the market!!

The aforementioned tablets in the previous page are placed in a vinyl bag in the waste liquid collection bottle. Jelly-like substance in the vinyl bag after processing will only be replaced.



Place the tablets in a vinyl drawstring bag When used, replace only the bag

Regardless of the moisture content (feces or urine), our product helps alleviate the unpleasant odor and appearance

Medical Care **IN-DASH** Comparison with Competition

	Bad Odors	Infection Prevention	Market Share	
Returnable Bottle (Primitive Method)	Wash bottle and reuse it The most primitive type	×	×	20%
Disposable Bottle Type Lid & Bag (Lid and bag are integrated)	Lid and bag are integrated and can be replaced after processing Odor during treatment remains	×	×	50%
Disposable Bottle Type	Requires replacing each bottle Odor remains	×	×	30%
IN DASH Bottle	Requires replacing each bottle (For the second generation, only the bag is replaced) Disinfect and deodorize	0	0	

What is really happening in hospitals?

28(5 patients) of waste liquid will full the container and be replaced

2,000 yen for a hard bottle.

Estimated at Chiba University Hospital

20,000 cases/year in the endoscopy room

→ 4,000 bottles consumed each year = Consumption of 8 million yen If it is less costs and more functional than this, it will definitely be beneficial!!



Waste liquid collection container with coagulant when disposing of the container, press the lid and add the coagulant.

Disposable Bottle Type

Medical Care **IN-DASH** Market

Endoscopes are originated in Japan!! Fields where you can aim for the world from the Japanese market

Endoscope technology originated in Japan, and Olympus has a 70% market share worldwide (others includes Fuji Film and Pentax) Standardization of endoscopic-related products in Japan will <u>directly contribute to the</u> <u>global standardization</u>

X-ray examination is outdated. Endoscopy test is on the rise, representing a growing market trend!!

Number of endoscopy facilities in general hospitals in Japan \rightarrow 4,091 (as of March 2017) Number of endoscopy facilities at general clinics in Japan \rightarrow 6,647 (as of March 2017) With the transition from X-ray examinations to endoscopy, the number of examinations is increasing year by year. Endoscopy examinations are the hospital's breadwinner!!

Our Strategy in the Medical Field

We aim to develop products that can handle **waste disposal**, serve as an **emergency toilet** during disasters, and contribute to **preventing nosocomial infections**, all through tablets

 ${f 1}$ Our tablets enable the prevention of nosocomial infections related to gastrointestinal infectious diseases!

(2)Hospitals are lagging behind in stockpiling emergency toilets!

③The world's focus on infectious diseases is shifting to AMR (antimicrobial resistance) prevention!

4Processing of samples after testing for diseases such as tuberculosis and HIV (especially in regions with inadequate sewage treatment)

What is AMR (Antimicrobial Resistance) nosocomial infection?

In addition to the current focus on infectious diseases during COVID -19 pandemic, it has been reported that annually, 8,000 deaths occur due to nosocomial infections caused by antibiotic-resistant bacteria such as drug-resistant Escherichia coli and methicillin-resistant Staphylococcus aureus (MRSA). This information was disclosed by the National Center for Global Health and Medicine, a national research and development organization in Japan.

Gastrointestinal infections spread among patients in the restroom, as bacteria can be present on toilet door knobs and paper holders.

Our Ho! Toilet Tablets and other products have been improved to prevent infectious diseases, allowing you to defecate on a simple toilet seat or in a private room to prevent infectious diseases.

2019 Small and Medium-sized Enterprise Overseas Expansion Support Project ~Feasibility Study~ in Uganda

Our company was selected for JICA (Japan International Cooperation Agency) 2019 Small and Medium -sized Enterprises Overseas Expansion Support Project ~Feasibility Study~ in collaboration with Chiba University School of Medicine. From May 2023, we have initiated investigations on gastrointestinal infectious diseases in Uganda, a developing country with vulnerable healthcare infrastructure.







Session at National Mulago Hospital in May 2023 It was decided to conduct a demonstration test





Demonstration test at National Mulago Hospital in June 2024

Mt. Fuji

Ho! Toilet Case Study

Ho! Toilet was distributed at Mt. Fuji, Yamanashi Prefecture, Fuji Yoshidaguchi between 2014 to 2017.

Littering of substances on mountain roads after its use is "0".

95% of those who used it in 2014 and 100% of those who used it in 2015 answered that they didn't mind the odor.



ODA Project in Peru

Ho! Toilet Case Study





In February 2018, 10,000 packages of Ho!Toilets were delivered to Peru as disaster prevention stockpile.

Track Record Toilets at Mountains (Touristic Area) of Bolivia



At JICA Bolivia office, we conducted a demonstration test with prove to improve toilets in touristic area.

On April 7 2019, we had a demonstration of use at Huayna Potosí Glacier (elevation 5,200 m) in La Paz Department, Bolivia and it was evaluated very well as EASY TO USE and NO ODOR!!

From FY 2021, JICA Bolivia office conducted a demonstration for the project "ECO TOMODACHI" with Mt. (A Fuji Toilet In the future, we will continue to conduct demonstration tests at Uyuni salt lake, which is in the limelight in tourist areas!





- It is a system that deodorizes, disinfects, and solidifies excrement into a jelly by using a special excrement treatment agent.
- No electricity or installation work is required.
 Since it can be moved like a temporary toilet, it can be installed anywhere.
- Since the excrement solidifies without a foul odor, it can be transported without using a vacuum car in the event of a disaster.







Open the plastic bag and place the Excreta Treatment Tablets in the box. And then install the box under the temporary toilet (Chemical amount : 1 to 1.5 kg)



2

Temporary toilet sits on a pedestal instead of a sewage tank. Excretion process is the same as a normal temporary toilet.



Pull out the box installed at the bottom of the temporary toilet. The Excreta Treatment Tablets solidify urine into a gellike substance.



Solidified urine in the box is wrapped in a plastic bag and disposed of. Due to the use of advanced chemicals, there is minimal odor.

(A Mt, Fuji Toilet Demonstration Example: Earth Day 2019 @Yoyogi Park with over 120,000 participants



Mt. Fuji Toilet

Our Work (1) – Portable Toilet Project in Mongolia ^{OMt.} Fuji Toilet

This is a part of JICA'S Small and Medium-Sized Enterprise (SME) Partnership Promotion Survey in 2015 Present













There are excavation toilets with no sewage system

Our Work (1) – Portable Toilet Project in Mongolia [®]Mt. Fuji Toilet

This is a part of JICA'S Small and Medium-Sized Enterprise (SME) Partnership Promotion Survey in 2015

Demonstration at Naadam festival in 2015









Treated waste in Mt. Fuji Toilet



Most of the participants commented that there is no odor in the toilet

Our Work (1) – Portable Toilet Project in Mongolia

This is a part of JICA'S Small and Medium-Sized Enterprise (SME) Partnership Promotion Survey in 2015

Demonstration at New Year Event under -27°C







(Mt. Fuji Toilet







Under -27 °C, our Mt.Fuji Toilets have worked without any difficulties at Sükhbaatar Square in Ulaanbaatar

Our Work (1) – Portable Toilet Project in Mongolia OMt. Fuji Toilet

This is a part of JICA'S Small and Medium-Sized Enterprise (SME) Partnership Promotion Survey in 2015

Demonstration at Naadam festival in 2016











We demonstrated Mt.Fuji Toilet at Naadam festival again and customer survey has shown very positive results

(a) Mł. Fuji Toileł Demonstration Experiment at Tourist Destination 2022 in Kyrgyzstan









Pilot project at tourist destinations in Kyrgyzstan began in 2022



Reported on BBC Kyrgyzstan <u>Available to Watch</u>

(1) Comparative Effectiveness Experiment



Chemical Fertilizer



No Fertilizer



Treated Waste



Treated waste from Mt.Fuji Toilet has shown the same or better results than chemical fertilizer

(2) Comparative Effectiveness Experiment at Meiji University



Lettuce sprouts were planted with treated waste from Mt.Fuji Toilet (2016.06.26) 1 month later (2016.07.22)

(2) Comparative Effectiveness Experiment at Meiji University



No Fertilizer

Treated Waste



Treated waste from Mt.Fuji Toilet has shown better results than no fertilizer

(3) Comparative Effectiveness Experiment in Mongolia





Japanese mustard spinach was planted with treated waste from Mt.Fuji Toilet. (2016.08.14)



2 weeks later (2016.08.30)

SDGs Model of Resource Circulation by Earthworm Composting

Advantages of Earthworm Composting

- No need for electricity, water, sewage, or large scale facilities
- Low running costs
- Waste to soil for Agriculture
- Solving problems at the tourist's site



In Bolivia, the earthworm composting from human and livestock wastes has already become practical



Earthworm Composting Plant from human waste in Bolivia



1st stage of the composting



2nd stage



Earthworm farming by

Livestock Producers

Final stage (the soil treated at 3rd stage)

Fertilizer Challenge #4 Vermicomposting for SDGs Circulation Model

Checking decomposed status of the material after Ho! Toilet treatment in the vermicompost



Day#11 2020/7/11

Fertilizer Challenge #4 Vermicomposting for SDGs Circulation Model

Experiment with planting coriander using earthworm treatment

Upper Row : Soil with earthworm treatment Lower Row : Soil without earthworm treatment



Day #5

Day #14

Day #30

Although the initial germination rate was slightly better without earthworm treatment soil, the growth status after 30 days was better with earthworm treated soil.

Mł. Fuji Toileł Hi! Toilet (Barrier-Free Toilet)

Barrier-free toilets have been adopted by the Ministry of Health, Labor and Welfare as a subsidy project for the development promotion project for independence support equipment for persons with disabilities in 2017 and 2018





Image of Full Option

🛃 オプション				
处理剂投入装置	ベビーチェアー			
簡易手洗い器	着替え台			
パイプファン	スロープ			
アンカー固定器具	その他ピクトサイン			
シートクリーナー	化粧筒			

電装関連 ※ソーラー来言を言葉することで住用できます。

ソーラー発電装置 救急警告灯

音声ガイダンス (地名ほかいまの方向け)









40

Mł. Fuji Toileł Hi! Toilet (Barrier-Free Toilet)

Barrier-free toilets have been adopted by the Ministry of Health, Labor and Welfare as a subsidy project for the development promotion project for independence support equipment for persons with disabilities in 2017 and 2018



In this project, we are developing a barrier-free temporary toilet that reflects the needs of various users with disabilities through participatory workshops.

Featured on TBS News 23.

The May 4, 2021 broadcast of TBS News 23 can be viewed below

Save the Uyuni Salt Flats in Bolivia from Environmental Pollution [SDGs] https://youtu.be/n6cAsBxhaR0



Subtitles and auto-translation functions allow you to add subtitles in many languages.

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THANK YOU!