



# **Nirmitee Robotics**

World's Leading HVAC Air Duct Cleaning & Sterilizing Company with its Patented Technology

# **About Nirmitee**



Nirmitee Robotics India Limited has opened a 100% owned subsidiary company Nirmitee Robotics AC Maintenance LLC, in Dubai UAE.

Nirmitee Robotics India Limited is a pioneer HVAC Air Duct Cleaning Company based in Nagpur, India with offices around the world. The company was established in 2016 by a group of young, dedicated, motivated & enthusiast professionals.

The company is listed on the BSE SME Startup Platform and is privileged to have been certified by National Air Duct Cleaners Association (NADCA), British Safety Council (BSC), Indian Green Building Council (IGBC) and Indian Standard Organization (ISO:9001:2015) and is also recognized by the Start Up India Mission. The company is awarded with a "Star International Innovation Award" by the hands of Dr. Frank Mentrup, Mayor Karlsruhe, Germany under "Swachh Bharat Mission".

The company is proud to have developed its own patented, air duct inspection and cleaning robots under "Make in India Mission". The company specializes in Ozone, PHI and UVGI treatments for sterilization of HVAC Air Ducts. The company provides an end-to-end solution for improving Indoor Air quality.

A committed management of the company anchors the organization effectively to its goals of providing high quality services to its clients. Equipped with technical expertise, excellent domain knowledge and extensive cross-functional experience, the company nurtures interactive relationships with the client community.

In such a short span of time the company has repetitively provided services to Indian Railways, Airports, Parliament House, Power Generating Stations, Hospitals, Pharmaceuticals and other world leading brands.











# Vision & Mission



# Our Vision

Another glorious day. The air as delicious to the lungs as nectar to the tongue.
- John Muir

# Our Mission

To reach out across the continents and offer a healthy lifestyle through innovative technologies to ensure **people breathe in safe and bacteria free environment**.





# REALITY CHECK! Actual condition inside AC ducts



Most people spend 90% of their time indoors. Indoor air levels of many pollutants may be more than 100 times higher than outdoor levels even in the most industrialized cities.



**The US Environmental Protection Agency** 













• CONSTRUCTION DEBRIS •

• DUST COTTON •

FLOORING & CARPET



# **Dust Hazards**

# Related to Health

"If You Live In A Home With Chronically Poor Air Quality, You Can Experience Frequent Headaches, Long Lasting Colds And Bronchitis As Well As Chronic Asthma."

- E. Neil Schachter, Medical Director, Mount Sinai Medical Center, New York

50%
more pollutants
possible indoors
than outside

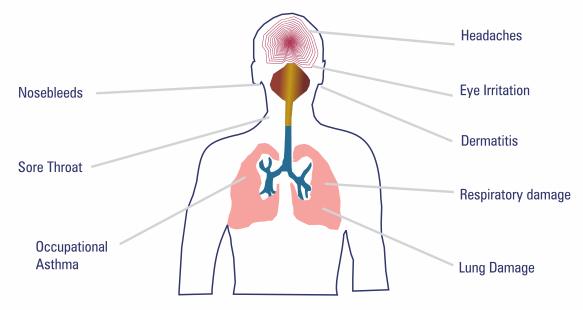
INDOOR AIR
Pollution is
affecting
our HEALTH

58%
of people have experienced mould or condensation at home

81%
Individuals at risk
of respiratory &
dermatological problems
due to poor IAQ

90% of our time is spent breathing indoors polluted air. 900
different chemical,
particulate &
biological materials
can effect our health

# Few Major diseases cause due to dirt



Allergies are the most common health problem associated with poor indoor air quality in homes.

-The American Lung Association



50% of illness are either caused or aggravates by polluted indoor air.
- American College of Allergist & Environmental Protection Agency, USA



# **Dust Hazards**

# Related to Equipments

#### **Data Centers**





# **HVAC System**



#### Server Rooms



# Dust and Other Contaminants in your server room can pose A Great Threat To Your Equipments & affects the system as in the following ways:







# Dirty duct could be A FIRE HAZARD!!







500 Evacuated As Fire Breaks Out At Luxury Hotel In Singapore

The blaze involved a kitchen stove and an exhaust duct in a restaurant on the second floor of the Grand Hyatt Hotel in Singapore. WorldAgence Mar 27, 2019



#### PA. Chambersburg Public Opinion

Restaurant inspections: Kitchen fire shuts down popular Chambersburg eatery

17, 2020 (due to a kitchen fire) ... Burger King #1086 ... in cooks area unde dirty ventilation ducts, and subject to potential contamination



# **66** National Fire Protection Act

mentions that the duct should be protected from corrosion and shall be cleaned to remove combustible contaminants.

NEWS

**NEWS** 

**NEWS** 

**NEWS** 

**NEWS** 

**NEWS** 







**REMOVE ODOURS** 



IMPROVE INDOOR AIR QUALITY





EXTEND HVAC EQUIPMENT LIFE



REDUCES ALLERGENS & IRRITANTS



CLEAN & HYGIENIC AIR
FROM YOUR HVAC SYSTEM
RATHER THAN
BREATHING AIR CONSISTING OF
DUST AND GERMS



PROVIDE

A HEALTHIER ENVIRONMENT
FOR ALLERGY SUFFERERS



IMPROVES AIR FLOW EFFICIENCY



SAVE MONEY ON ENERGY COSTS



REDUCES THE POSSIBILITY OF MOULD GROWTH



IMPROVES SYSTEM DURABILITY



# Why to Choose Nirmitee?

# **SAFETY ON PRIORITY**

# A: Safety of YOUR property

Covering before cleaning









Fire Safety





Floor Safety

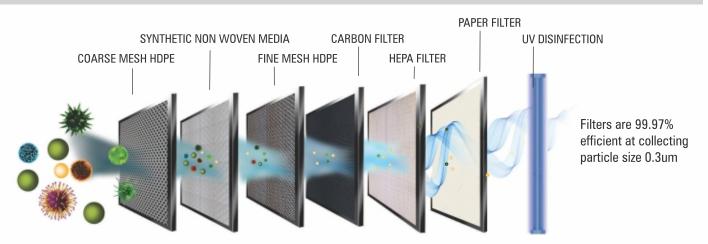


Wall & Accessories Safety





#### **Avoiding Cross Contamination (7 Stage Filtration)**



- We give utmost importance to cross contamination while duct cleaning. This involves removing dust, dirt, debris and microbe's, from the duct and arresting these particles inside the air filtration chamber of our machine and releasing just clean air out of the machine.
- This prevents the dirt being released in the surrounding area where the duct cleaning is in process.

#### **ENZYME FILTRATION**

Micro-organisms caught with dust multiply on the surface of the filter media and pass through the air filter. Enzyme Filter eliminates active bacteria propagation, spore growth and contamination found on the surface of the air filter. These bacterias, if persist are ultimately disinfected by UVC disinfection system.

# State of the Art Filtration system to avoid Cross Contamination

# **B:** Machine Safety





**Over Heating Alarm** 

All the components of the machine are grounded properly and are CE Certified.





**Electrical Switchgears** 

**Emergency Stop** 

The machine contains Emergency Stop which brings a machine to rest within a second. This feature is added to avoid any damage to the workman and machine.





# C: Human Safety

We follow zero accident policy, by developing consistent safety practices and competencies at every level, and creating a culture of responsibility and accountability for all occupants.

All the personal protective equipment provided to the team are as per the direction of Occupational Safety And Health Administration.

We ensure supporting a healthy, productive team whose contributions are essential to company success.

# **ABSOLUTE DUCT CLEANING**

To improve the indoor air quality Occupational Safety and Health Administration, National Air Duct Cleaners Association and American Society of Heating Refrigerating and Air-Conditioning Engineers recommend the cleaning of :



**DUCT** 



**DRAIN TRAY** 



**FILTER** 



**BLOWER FAN** 



**AHU COIL** 

For complete elimination of dust, we recommend cleaning of carpet and upholstery.



# **EXPERT IN STERILIZATION**

Clean is not enough, hygienically clean is need of the day.

#### A. Ozonization

For decades it is seen that ozone is the safest and the most convenient option for protecting people by killing dangerous bacteria and viruses.

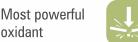
It's an effective way of disinfection, as the oxidant is in the gaseous state and therefore can spread easily which destroys microorganisms.

#### According to Japanese research Ozone is effective in neutralising the COVID-19

With such vital properties of ozone in fighting against such germs it is highly recommended to sterilize the duct by ozone









Destroys pathogen in seconds

# **Some Applications of Ozone**



Air Purifiers



**Drinking Water** 



Food Industry



Cosmetic Industry

#### **B.** Ultraviolet Germicidal Irradiation

- · Ultraviolet Germicidal Irradiation (UVGI) is a disinfection method that uses short-wavelength ultraviolet light to destroy microorganisms.
- · Ultraviolet Light kills cells by damaging their DNA, exposure of electromagnetic radiation attacks microorganisms and destroys their ability to reproduce.





No Byproducts



Low Maintenance Cost

#### C. Advanced Oxidation Plasma Cell

- · It generates hydroxyls radicals (airborne plasma) using UVC light.
- The radicals decomposes pollutants and inactivates pathogenic viruses and bacteria's and even neutralizes allergic pollens and mold spores



No maintenance



Designed to run 24x7



Pest repellant

# Recommended by



















# AIR QUALITY ASSESSMENT

Indoor Air quality usually refers to the amount of suspended particulate and microbes in the air, we perform specific tests realated to these.

#### A. Suspended particulate matter

We measure suspended particulate matter:

- PM10 : Inhalable particles, with diameters that are generally 10 micrometers & smaller.
- PM2.5: Fine inhalable particles, with diameters that are generally 2.5 micrometers & smaller.

How small is 2.5 micrometers?

Think about a single hair from our head, it is 30 times larger than 2.5micrometers.

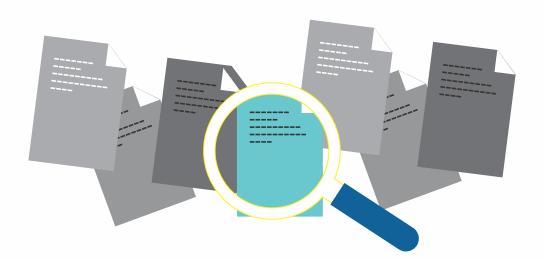
#### **B.** Microbes calculation using various tests

- 1. Before ozonisation and after ozonisation
- 2. On the duct surface
- 3. On Dust collected from Duct

#### C. Volatile organic compound

We measure volatile organic compound. VOC's are gases that are emitted into the air from products or process.

# STANDARD OPERATING PROCEDURE



Maintains Uniformity
Of Performance

Reduces Miscommunication Complex Operations
With Ease

Helps To Comply With Industry Regulation

Increases Our Efficiency

Generates Quality Output

www.nirmiteerobotics.com 1

**SPM Meter** 





# **TEAM WORK**

# A: SKILLED EXECUTION TEAM



Skilled And Efficient

Responsive

Genuine To The Commitment

Flexible to Work 24\*7

No Outsourcing

**Disciplined And Professional** 

Completes Work Within Time

Ready to Move at Anytime

# **B: INNOVATIVE IN-HOUSE R&D TEAM**



**TECHNOPHILE** 



CRITICAL PROBLEM SOLVER



DESIGNS FOR MANUFACTURABILITY PRODUCTS



IMPLEMENTS COST CONTROL METHODS

Works on Lean production-enables a company to produce only what is required, with the correct quantity and on correct time.

# C: SPARKLING OFFICE TEAM



HIGHLY ACCOUNTABLE



**RESULT ORIENTED** 



PROFICIENT TEAMWORK



COMMUNICATION



**PROFESSIONAL** 



WORKS FOR CUSTOMER DELIGHT



FLEXIBLE IN WORKING HOURS



ADAPTABLE TO NEW ETHICS



NEVER MISS OUT ANY LEARNING OPPORTUNITIES



# **CERTIFICATE**



We Uphold Highest Level Of Integrity In Our Process & Follow All These Standards.

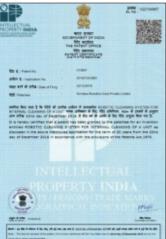




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Service Company and

# **PATENT**



#### IS<sub>0</sub>



#### **BSC**



#### **ASCS**



#### CII



#### **BSE**



#### START UP INDIA



#### **IAQA**



#### VIA (Make in India)





#### **MSME**



#### Trade Mark











# **WORLDWIDE APPRECIATION**



First stop in Nagpur: visit at Nirmitee Robotics (Director Jay Mothgare) innovative air filter cleaning using artificial intelligence, also MoU with German airquality company Schuko. Impressive Indian engineering, incl Pooja Kose & Sweta Pali - two outstanding female engineers



His Highness Mr. Walter Lindner Sir, Germany (German Ambassador to India Visits & Tweets About Nirmitee)



Mr. Andre Schuko (CEO Schuko), Germany



Mr. Li FengXiang, China



Sheikh Salim Al Rawas, Oman



ISHRAE & ASHRAE Committee



Honorable N. Gadkari Cabinet Minister, GOI



Life Insurance Corporation, Mumbai



Dr. Frank Mentrup, Mayor Karlsruhe



Star International Innovation Award

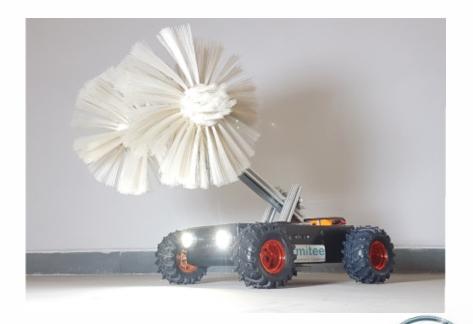
Get in touch with Nirmitee Robotics for Clean Indoor Environment



# **OUR ROBOTS**

## **ENC**

- Vigrous Brushing
- Anti Tilt Sensor
- Wifi Enabled
- Anti Drop Sensor
- Adjustable Cleaning Arm
- Online Screen Status
- Multiple Cameras



#### ONIC

- High dust collecting Capacity
- High power Suction
- Compact in size
- Light Weight
- 7 stage Filtration to reduce cross contamination.

# ODMJ-F

- Fully automated Robot
- Brushing and suction simultaneous operation
- In built screen and vision system
- In built recording and storage
- Powerful suction capacity
- 7 Different Stages filtration to reduce cross contamination







# **FLEET OF ROBOT**



NIB, Inspection Robot Any Size Duct



DMJ SET, Small Size Duct Cleaning Robots



ZMJ, Brushing Robot, Circular Duct



NB, Brushing & Suction Robot Standard Size Duct



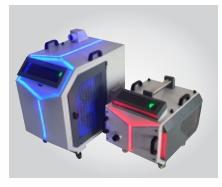
NBB, Brushing And Suction Robot Duct Size Upto 5 feet



SNAKER, Brushing Robot, Vertical Ducts



CONTROL PANEL, Controller Of Robot



INS (B&S)



Al-R6, Brushing & Suction Robot, Standard Size Duct



ONIT, Brushing & High Power Suction Robot, Pharmaceutical Industries



NIC Suction Robot



NIG, Pneumatic Robot Highly Flexible Range



# **ON SITE PHOTOS**

AC COACH



ADANI HOUSE



HALDIA PETROCHEMICAL



Hydro Power Plant



Thermal Power Plant



Train Management System



Vidhan Bhavan



**Indian Oil Corporation** 



Tata Institute of Fundamental Research



AIIMS



WNS



Troikaa Pharma



**NSPCL** 



Delhi High Court



RBI

All India Radio





# BEFORE CLEANING & AFTER CLEANING





























# **MEDIA RELEASES**

# **M** NEWSMAKERS

# Is dirt in AC duct, a threat to you?

Breathe Fresh, Live Healthy with specialized air duct cleaning Robots

We spend 50% of our time indoors. Over time, Air Ducts accumulate dust, debris, bacteria, mold, insects. The air passing through these contaminated ducts circulate throughout your office or home, and cause air borne diseases, and adversely affect the efficiency of your cooling or heating system and increase power consumption also. Accumulated dust can pose a fire hazard, as all dust is flammable. Air quality inside closed structures, especially those dust can pose a fire hazard, as all dust is flammable. Air quality inside closed structures, especially those equipped with air conditioners, is generally not questioned. However, researches have shown that the dust inside AC duets have the potential to cause as much harm as the air pollution outside. If only we could see and inspect the ducts, we would have known that they too need a thorough cleaning.

Nirmitee Robotics India Limited is one of the leading HVAC (Heating. Ventilation and Air Conditioning) Air Duct Cleaning companies. Its robotic system's design is primarily an attempt to take control of the environmental conditions inside the space one works. While inspecting the duct the team found enormous volume of dust and unimaginable residuals like:

\* Rats & Rodents

\* Lizards & Cockroaches

\* Egg shells & Snake Skin

\* Kittens & many more

With a goal of working towards

"Swachha Bharat" (cleaner India), especially duct cleaning that people unknowingly ignore, Nirmitee is committed to help you breathe well



Lay Motshare, Founder & Director, Noin its service to do the inspection, cleaning and post-cleaning operations, it ensures healthier indoor air quality and protection of sensitive equipment from dust and heat. Nirmitee Robotics uses robotic technology to provide HVAC Duct Cleaning and Ozone sterilization services. The company makes customised robota- that clean the inside of HVAC Air Ducts - by scrubbing, sucking, brushing, scraping and removal of the accumulated contaminants taking in consideration the ill effects of cross contamination with the help of 6 stage HEPA filtered machine.

Brainchild of Jay Motshare. Nirmitee Robotics has developed and patented specialized robots that travel deep inside your air ducts where humans cannot reach manually Also sterilizing your HVAC Air

business. He identified a GAP in Duct cleaning field. At that time, no organizations were providing a full proof solution for duct cleaning which seemed hazardous for health especially in large public places like Airports, mails, hotels, IT companies or pharma industries etc.

With this concept he incorporated Nirmitee Robotics in 2018. Earlier this year, the company was listed company and successfully came up with its IPO. Motghare first created a small robot to start with and later expanded it to incorporate more features and sizes. There are different size robots which can be used to clean variety of ducts. The entire set of vobots comprises brushing, inspection, scrubber, suction, poeumatic bots and are all fitted with an advanced controller and a high resolution camera. The USP of Nirmitee



and live well! The company is equipped and experienced to bandle all kinds HVAC Air Duct Cleaning and providing their cleaning services to offices, hotels, convention centers, hospitals, Vidhanbhavan, train coaches, metro and specializes in buildings that house sensitive equipment, like Data Centers and Operation Theaters, With offices in India, Hong Kong, and Dubai, Nirmitee is ready to serve customers around the world.

By a unique combination of its patented Air Duct Inspection Robots to survey your HVAC Air Ducts along with its own fleet of duct cleaning robots, which are employed

Ducts with Ozone, giving you 99% germ and odor free air!

Since childhood Motghare, Founder & Director of Nirmitee Robotics, had a dream to become an entrepreneur and as a child. After completing his graduation from Nagpur, be joined few MNC companies in Pure and Nagpur to learn how logistics in an MNC company works. Eventually he left the job and started working and exploring the market in 'fly ash' business. He started by selling 'cenosphere' dy product of fly ash) to various oil exploring companies. But this did not fulfil his quest to something different which is not a traditional

is ozone sterilisation which helps in improving IAQ. Ozone neutralises many types of known bacterias and viruses. "Now we are coming with the most economical solar power cleaning solution on a large scale. We have created altogether a new technology which is now recognised by various national and international organizations." says Motghare. "In this Global Pandemic, Everyone is looking for cleanliness and Hygiene. Throughout the globe all the countries are having some HVAC duct cleaning policies, India should also have certain regulatory policies to clean the ducts. Health is wealth "says Jay Motghare.

#### THE ECONOMIC TIMES Rise

SMEs list and raise money on BSE SME & Startups platform amidst lockdown



MUMBAI: Amidst the nationwide lockdown announced due to the novel pandemic, BES SME and Startups segment have seen three SMEs and one startuget listed on the exchange. On April 21, 2020, Nirmitee Robotics India Limited became the 5th company to get listed on the BSE Startups Platform.

The three SMEs listed during the lockdown period - DJ Mediaprint & Logistics Limited, Cospower Engineering Limited, RO Jewels Limited – have raised Rs 9.35 crore as on April 21, 2020 while the newly-listed startup Nirmitee Robotics India Limited has raised Rs 3.24 crore.

Nirmitee Robotics India Limited is a pioneer HVAC Air Duct Cleaning Company based in Nagpur with offices around the world. Nirmitee Robotics came out with an initial public offering of 175,200 equity shares of Rs.10/ each ("Equity Shares") for cash at a price of Rs.10 per equity share (the "offer price"), aggregating to Rs. 324.00 lakh. The company has successfully completed its public issue on April 9, 2020. Mumbai-based Aryaman Financial Services Limited was the lead manager for Nirmitee Robotics India Limited.

The four companies listed so far on BSE Startups Platform - Alphalogic Techsys Limited, Transpact Enterprises Limited, Valencia Nutrition Limited and Tranway Technologies Limited have been able to raise Rs 22.24 crore from the market and the total market capitalization of these companies as on April 21, 2020 is Rs 62.47 crore. The 322 companies listed on BSE SME Platform have raised Rs 3,320.48 crores from the market and total market capitalization of these companies as o 21st April 2020 is Rs 15,918.07 crore.

#### India and Germany -A Successful **Start to Business Collaborations**



#### TheHitavada

#### City-based Nirmitee Robotics shines at Dubai World Expo 2020



#### Lokmat Times

#### Nagpur-made technology to be applied in Europe

■German Schuko signs MoU with Nirmitee

#### German company signs agreement with Nagpur-based startup

German co to take



# NOBORS FARM VIOLEPE HATO SWEEP BURDLE OFF ITS FEET!



### HITAVADA - 19 JULY 19

German Ambassador visits Nirmitee Robotics Pvt Ltd



The companies are close to finalizing commercial terms of the deal, soid Jay Motighare of Nirmitee at a press conformace here. The technology was shownessed durings wisit of German business delegation to Nagpur For SCHUKO, a mild-sized armily-un business in German business of the second s

of its kind technology Cur-rently, ducts used in air-ous-

# up city firm's robots are only cleaned manually and Nirmitee's robots may be

Nagpur: German company SCHURO is close to acquiring robotic technology for clee-ning ducts of air ventilation systems, developed by a Nag-pur start-up Nirmitee Robo-tics India Private Limited.

#### CLOSE TO DEAL

family-run business in Ger-many, this would be the first of its kind technology, Cor-

a game changer, said Andre Schulte-Sudhoff, SCHURO's General Manager said over

General Manager said over video conferencing.

Motighare said the robots have been developed and patented by Nirribace. The consumpting has so far made eight sets having nitro robots each. The size of the robots pose up to § Set which can be used to dean length dates. In business in the country since last 38 months, the company is already catering to Indian Ruilways and Manageroo for clearing air conditioner ducts. Currently, Nirribace is a service per-vider with plans to go for sales operations in the next six menths, Moghare added.

#### Nirmitee Robotics Pvt Ltd bags Star International Innovation Award

NIRMITEERobotics India Private
Limited, the world's leading company for robotic duct dearning
and sterilization by ozone, was
socially secognised by the prestigious Sar International
Innovation 2020 Award. The
social was given at the hands of
Mayor Sandeep Joshi and Lord
Mayor of Karlseulus Germany De
Frank Mentrup during the
Cliticans Participation Awards2020, an event organised. Citizens Participation Awards-2020, an event organised by Beady2 Innovate Worldwide (R27W), held recently in the audi-torium half of Rajly Gandhi National Institute for Intellectual Property Management Nagpur (BGNIEW).



Kadinnin. led by Lord Mayor Dr Frank Mentiny visible the poem-isses (Nimitse Robotics the nost day to understand their technol-ogy. The delogates appreciated their technology and resilisting the dangers of unhealthy and dirty AC Ducts. decided to promote healthy air quality by regular HVAC Duct cleaning.

The delegation consisted of

Lord Mayor of the city of Karlsenho, De Panak Montrup, Balf Bichhorn, Michael Kaiser, Mortin Lautenschlagor, Simone Pflisger, from the Economic Development Department, City of Karlsenhe and Ashish Pandit of Ler's Bridge II, representatives of the Story II, representatives of the Story BadenWirtenberg ofGermany for Moharashtra. They were received by Diocetoes Okimitoe Bobstics, Jay Motghare. Kartik Shende, Sudosham Shende and Bajosh Admane along with Nimitoe team.



# **HAPPY CLIENTS**



































































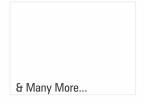












Stop stealing the right of the occupants from breathing fresh indoor air

# स्वच्छ से स्वस्थ जीवन शैली की ओर

(Towards clean and healthy lifestyle)





# **Nirmitee Robotics**

World's Leading HVAC Duct Cleaning Company

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