



Excel Industries Ltd.  
The courage to dream. Together.

# Excel Industries Limited

**“Waste Management for sustainable  
growth in the State of Madhya Pradesh”**

**11 December 2017**

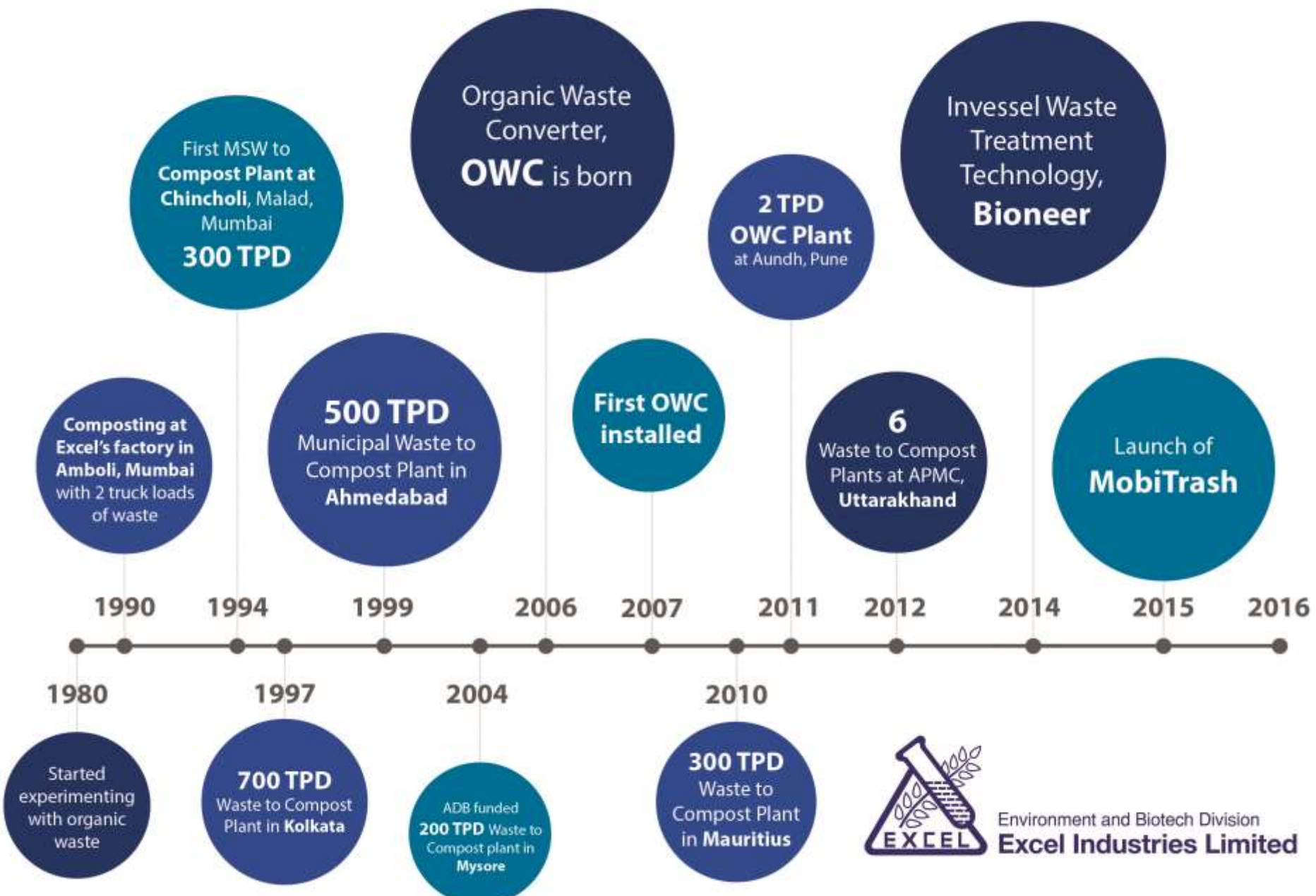
**Courtyard Marriott, Bhopal.**

**Devendra Singh Soun**

Manager

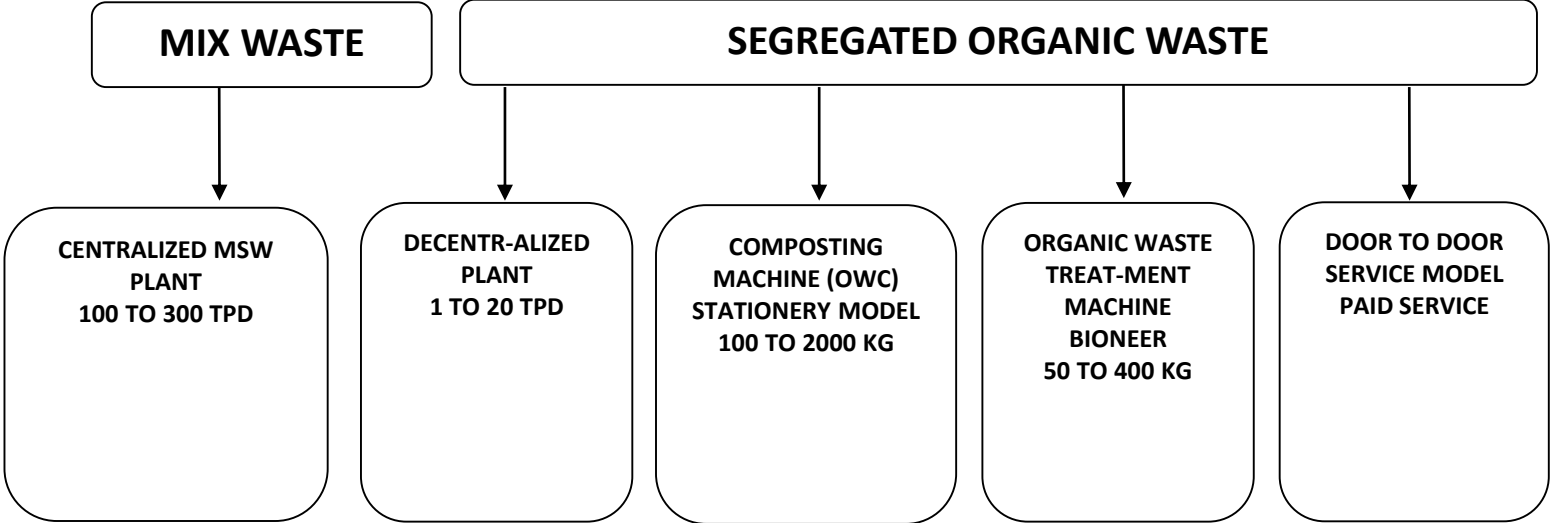
Environment & Biotech Division

**Excel Industries Limited**

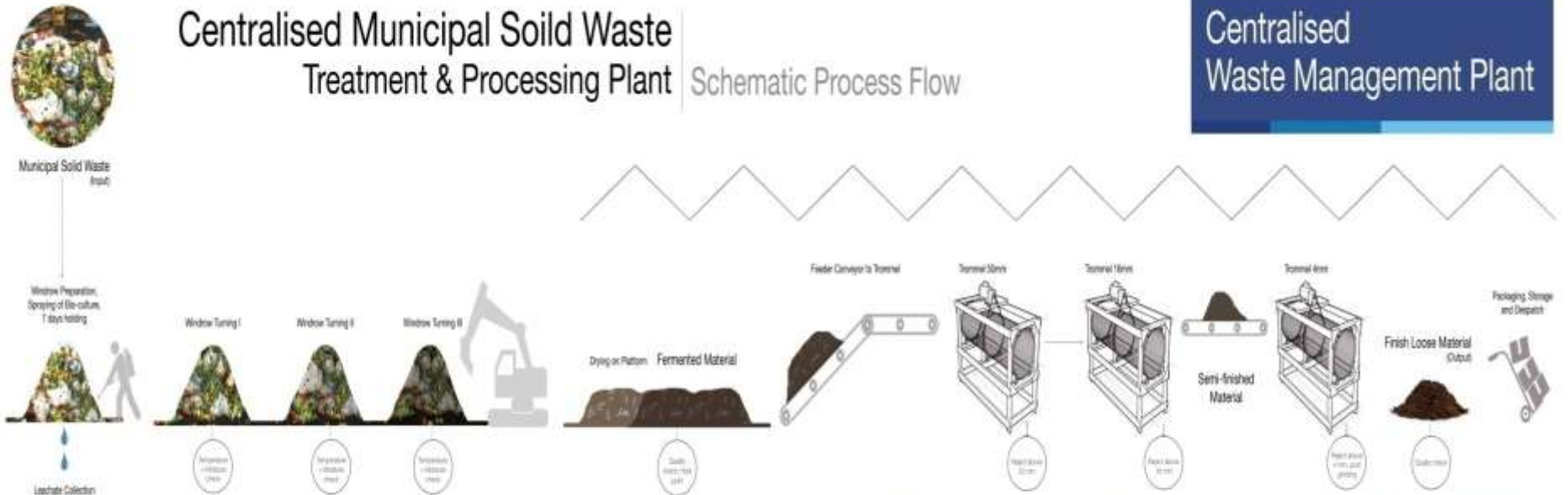


Environment and Biotech Division  
**Excel Industries Limited**

# MUNICIPAL SOLID WASTE



## Centralised Municipal Solid Waste Treatment & Processing Plant Schematic Process Flow



# Centralized MSW Treatment – Excel's Ahmedabad Compost Plant – 300 TPD





# Centralized MSW Treatment – Excel's Ahmedabad Compost Plant – 300 TPD



# Centralized MSW Treatment – Excel's Ahmedabad CompostPlant – 300 TPD





# Centralized MSW Compost Plant at Mauritius – 600 TPD



Civil  
Structures  
Building



Mechanical  
Segregation  
Process



**Microbial Composting  
Process 350 ton MSW  
per day**



Compost  
Recovery  
Enrichment



Compost  
Packing



# De-centralized Solid Waste Management

Community Level  
Composting

Mandatory  
Segregation and  
Treatment for Bulk  
Waste Generators

Compost Plants  
within APMC and  
Vegetable Markets

At-source  
treatment of Pious  
Waste

Mobile  
Composting for  
Restaurants &  
hotels

## Multi Pronged Approach



# Can De-centralized SWM works towards better Compliance of MSW RuleS 2016?

Reduced load to the Landfill site  
Reduce GHG emission

**YES**

Community Engagement  
for effective segregation &  
efficient recycling

Productive work /  
Green Jobs for the  
Urban Poor inclusion

# Bulk Waste Generators

- Excel has installed Organic Waste Converter (OWC) systems at more than 1,000 Bulk Waste Generators across India
- BWG's such as hotels, industrial canteens, hospitals have installed and are operating OWC systems
- Capacities between 100 kg/day to 1,000 kg/day systems
- Cooked and uncooked food waste along with horticulture waste can easily be composted
- Compost can either be used in-house for landscaping or can be fed into organic agriculture or afforestation



# OWC MACHINE





# OWC MACHINE

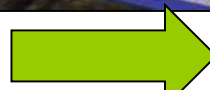


# CURING SYSTEM



Input  
Raw Compost  
from OWC

Output  
Matured Compost  
in 7-10 days





# OWC PPP Model ~ 2 ton per day



Segregated Food / organic Waste delivered at the site



Bioculum added for accelerated composting

Organic Media added for moisture reduction



Raw Compost in 15 min



Raw Compost



Matured Compost



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Presenting,  
Waste Treatment Plant 2 Tonnes per day







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Presenting,  
Waste Treatment Plant **10** Tonnes per day

& 20 Tonnes per day



# Community Level Composting

- Excel has installed OWC Plants for ward-level composting in cities such as Pune, Panjim, Trissur, Kakinada, Elluru, etc
- De-centralized Compost plants have capacities between 2 TPD and 10 TPD
- Compost is used by the city for gardening purpose
- These plants provide sustainable employment for urban poor
- These de-centralized plants ensure proper segregation and avoids long distance transport of waste



# Compost Plant for APMC Markets

- Excel has installed 6 compost plants between capacities of 5 TPD and 20 TPD for APMC Markets in the state of Uttarakhand
- The compost is of great quality as it is generated from segregated vegetable and fruit waste
- The compost is taken back by farmers in the same vehicle they use to bring in produce





# Composting of Pious Waste

- Excel has installed OWC plants at multiple religious locations across India
- The pious waste from food and flowering offerings at temples can easily be converted into high quality compost
- Excel's systems have been installed at Siddhivinayak Temple Mumbai, Parli Vaijnath Temple, Khajrana Temple Indore, etc





# Waste Treatment on Wheels

- Ideal Solution for waste generators who do not have the space or manpower to install a system and to operate it
- A subscription fee based model has been launched in Pune under the brand name 'Mobitrash'
- Primary treatment is done at the client's site and secondary curing at a de-centralized plant





# SANITIZATION TREATMENT MATERIAL

Sanitreat is a free flowing light brown powder used as an odour control agent in the sanitation of organic waste in the household refuse at collection, transfer and disposal points. The material should be sprayed dry over the waste.

Sanitreat is a non-hazardous, non-toxic powder fortified with mineral and herbal mixtures. No special handling precautions are required but the wearing of gloves by operators is recommended.

Sanitreat is used to control the putrefaction process that affects organic waste materials, which is associated with the creation of toxic leachates and gases. The process results in the rapid control of odour.

**sanitreat™**  
ODOUR CONTROL AGENT

AN ECO FRIENDLY PROCESS

**Stinking Organic Waste and Household Refuse**

**Sprinkle SANITREAT™ the odour control agent on the refuse**

**The organic refuse is sanitised and has no trace of odour**

**Benefits :**

- Eco-friendly Odour control agent
- Suitable for sanitisation of household Organic Waste
- Non-hazardous, Non-toxic powder
- No special handling precautions are required

*...takes the stink out of the garbage in few minutes...*

**Excel Industries Ltd.**



# **SANITIZING SRINAGAR MUNICIPAL CORPORATION LANDFILL SITE 2013**







# TSUNAMI – DECEMBER 2004



**EXPERT IDENTIFY DEAD BODIES BY ODOUR**



**PERFORMING LAST RITUAL...**



# Problems, Issues and Challenges

- Centralized Waste Management Plants
  - Lack of standardized tendering process from ULB
  - Lack of remunerative market for City Compost
  - Lack of administrative and political will for SWM
  - Absence of treatment fees from ULB
  - Non Segregated waste sent by ULB
- De-centralized Waste Management
  - Not in My Backyard
  - Unwillingness to pay by waste generators
  - Non segregated waste
  - Lack of favorable policies incentivizing waste generators



# Government's Stake

- Urban Local Bodies

- Must consider MSW Treatment as a high priority item
- Must enforce segregation at source
- Must mandate treatment at source for Bulk Waste Generators
- Must budget for and pay treatment fees to WM operators





# Thank You

## **EXCEL INDUSTRIES LIMITED**

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