

# Mitsubishi Waste To Energy

## - MHIEC Company Introduction -

December, 2021



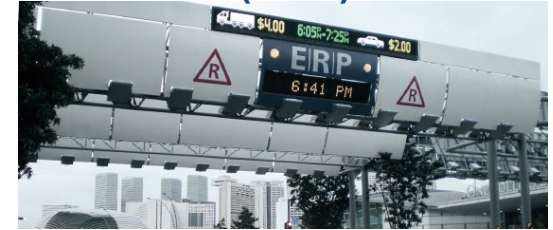
## Shipment



## Forklift



## ITS (ERP)



## Transportation



## High-Speed Rail



## Power Plant



## Nuclear Plant



## Chemical Plant



## Waste to Energy

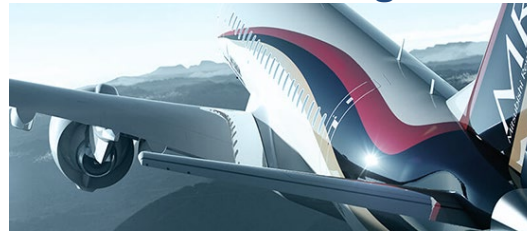


**MHIEC**

## Defense Aircraft



## Mitsubishi Regional Jet



## Launch Vehicle



# Company Profile of MHI and MHIEC

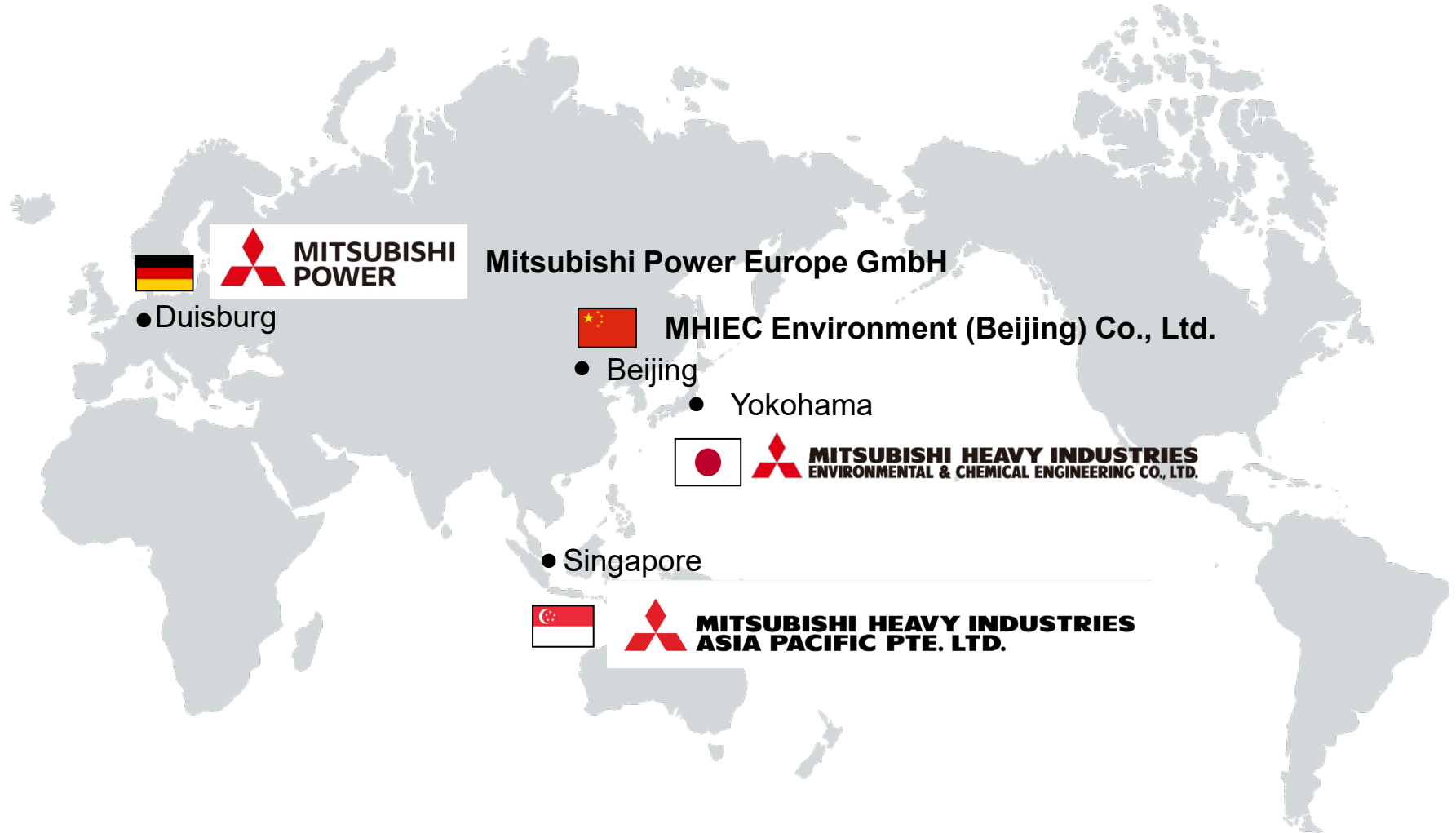


Trade name	Mitsubishi Heavy Industries, Ltd. (MHI)
Establish	1884
Capital	265.6 billion yen (US\$2.4billion) (as of March 31, 2019)
Employees	81,631 (consolidated basis, as of March 31, 2019)
Net Sales	4,169 billion yen (consolidated basis, April 1, 2018 - March 31, 2019)



Trade name	Mitsubishi Heavy Industries Environmental & Chemical Engineering Co., Ltd. (MHIEC)
Establish	1976
Capital	1 billion yen (US\$9.1million) (As of March 31, 2020)
Share holder	100% owned by MHI Engineering
Employees	572 (As of April 1, 2020)
Net Sales	51 billion yen (non-consolidated basis, April 1, 2019 - March 31, 2020)

Mitsubishi (MHI) is developing WtE business worldwide from 6 locations in UAE, Japan, Singapore, China, India & Germany.



## Mitsubishi is capable to offer the best optimum processing technology depending on various kinds of wastes

### Municipal Solid Waste



- Stoker (Grate)
- Gasification & Ash Melting
- Ash Treatment
- Ash Melting

### Industrial Waste



- Rotary Kiln + Stoker
- Forwarded Acting Stoker
- Fluidized Bed Incinerator
- Ash Roasting

### Sewage Sludge



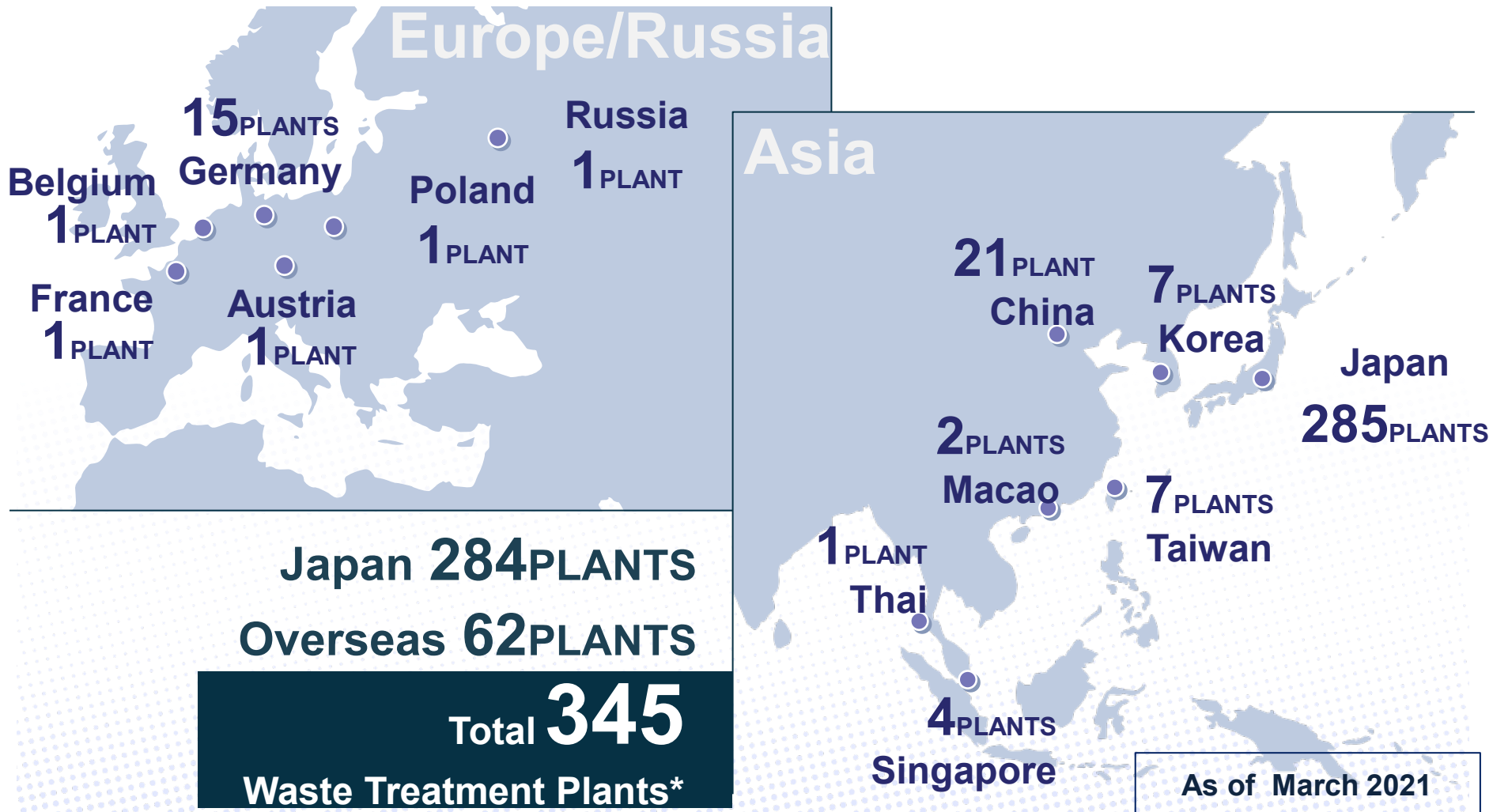
- Fluidized Bed Incinerator
- Carbonization
- Dryer

### Biomass



- Methane Fermentation
- Carbonization
- Gasification

## Mitsubishi is a global leader in Waste to Energy field



\*Waste Treatment Plant means waste to energy plant, solid waste incinerator, sludge incinerator and biomass utilization plant.

\*This is total references of MHIEC's references in Asia and Mitsubishi Power's ones in Europe and Russia.

# Reference Projects





## World's Largest Waste to Energy Plants



<b>End user</b>	Shanghai Laogang Solid Waste Utilization Co., Ltd.
<b>Location</b>	Shanghai, China
<b>Processing Object</b>	Municipal solid waste
<b>Start of Operation</b>	2019
<b>Process</b>	Stoker
<b>Design Capacity (*)</b>	6,800 tons/day - 850 tons/day - 8 units STG: - 150MW

\*Not the same as contracted capacity





## Singapore Tuas One WtE Plant is now under construction as PPP Project.

It will generate **120** MW (net) and be the highest efficient plant in Singapore.



End user	NEA (S'pore Gov.)
Location	Tuas, Singapore
Processing object	Municipal Solid Waste
Start of Operation	2021
Project	DBOO (EPC + O&M for 25years)
Process	Stoker
Design Capacity (*)	4,200 tons/day =1,050 tons/day × 4 units STG: 136MW (68MW X2units)

\*Not the same as contracted capacity

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