

Environmental Services Industry Transformation Map

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Presented by: Raymond Koh
Assistant Director (Cluster Development Department)
Industry Development & Promotion Division

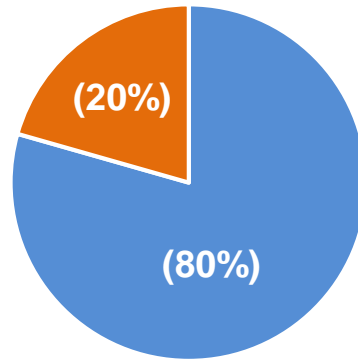
Industry Overview

Environmental Services industry provides essential **cleaning and waste management services** to maintain a clean and liveable environment

Total Workforce >78,000



>1,700
Establishments
Cleaning – 74%
WM – 26%



■ Cleaning ■ Waste management



Ave age of resident workforce
Cleaning – 60 years
WM – 49 years



Rank-and-file (RNF) workforce
Cleaning – 94%
WM – 67%

CLEANING			WASTE MANAGEMENT		
Offices & Commercial Buildings 	F&B Establishments 	Conservancy 	Waste Collection 	Sorting & Recycling 	Treatment & Disposal

Cleaning estimates from NEA Licensing Database (31 Dec 2016) and KPMG study, 2015
Waste Management estimates from Mercer study, 2016
Future Economy Project Office data pack 2017

Environmental Services ITM @ a Glance

A vibrant, sustainable and professional environmental services industry for Singapore and growing cities

Strategies	Technology & Innovation <ul style="list-style-type: none"> Growing capabilities and spurring innovations Driving widespread adoption of technology 	Jobs & Skills <ul style="list-style-type: none"> Moderating manpower demand Ensuring sustainable manpower supply Building a skilled and resilient workforce 	Productivity <ul style="list-style-type: none"> Driving change procurement practices Establishing benchmark indicators Strengthening procurement practices Improving land use efficiency 	Internationalisation <ul style="list-style-type: none"> Enhancing market access Growing capabilities to capture market potential Building scale and offering integrated solutions
Enablers	<ul style="list-style-type: none"> Strengthening TACs to support transformation Using standards and regulations to support ITM initiatives 		<ul style="list-style-type: none"> Establishing demonstration sites to trial solutions and to upskill workers 	
Desired outcomes	<ul style="list-style-type: none"> Innovative and technology enabled service providers Widespread technology adoption 	<ul style="list-style-type: none"> Technology augmented workforce Resilient and skilled local core equipped with portable skills for progression 	<ul style="list-style-type: none"> Higher adoption of outcome-based contracting Good contracting practices with sharper focus on productivity Establishment of a set of productivity indicators as reference 	<ul style="list-style-type: none"> Market savvy companies with scalable and competitive solutions for Singapore and growing cities

Technology & Innovation



- Ageing local workforce
- Increased public expectations and demand for better services
- Unique local operational difficulties affecting technology use

Strategy 1: Growing capabilities and spurring innovations

to enhance local companies' capabilities

- 1a. Developing technology and solutions
- 1b. Launching grant calls for technology adoption
- 1c. Growing innovation centres and facilitating technology connection

Strategy 2: Driving widespread adoption of technology

to reduce manpower demand

- 2a. Identifying ready-to-go solutions
- 2b. Re-engineering technology procurement
- 2c. Establishing channels for deployment of ready-to-go solutions

Technology & Innovation

Growing capabilities and spurring innovations

- Launching grant calls for technology adoption
- Growing innovation centres and facilitating technology connection

Driving widespread adoption of technology

- Re-engineering technology procurement practices and facilitating technology adoption

Supporting technology development and adoption via funding programme

District-level Pneumatic Waste Conveyance System



Robotic Waste Sorting



Vertical Waste Treatment System



Ride-on Pavement Sweeper



Showcase of ES ITM Video

ES ITM Video Link:

https://youtu.be/6548H_vmxxl

CleanEnviro Summit Singapore (CESG)



- CESG Catalyst in September 2021 – Overseas delegates can participate virtually in this one-day conference
- CESG 2022 in April 2022 (Together with Singapore International Water Week (SIWW) and World Cities Summit (WCS))

Our Environment

Safeguard • Nurture • Cherish