



NORDIC
INNOVATION
HOUSE SINGAPORE

WATER-WASTE-FOOD (WWF) VIRTUAL MARKET ENTRY PROGRAMME SINGAPORE

April 19th - 23rd & 26th - 30th 2021

Organisers



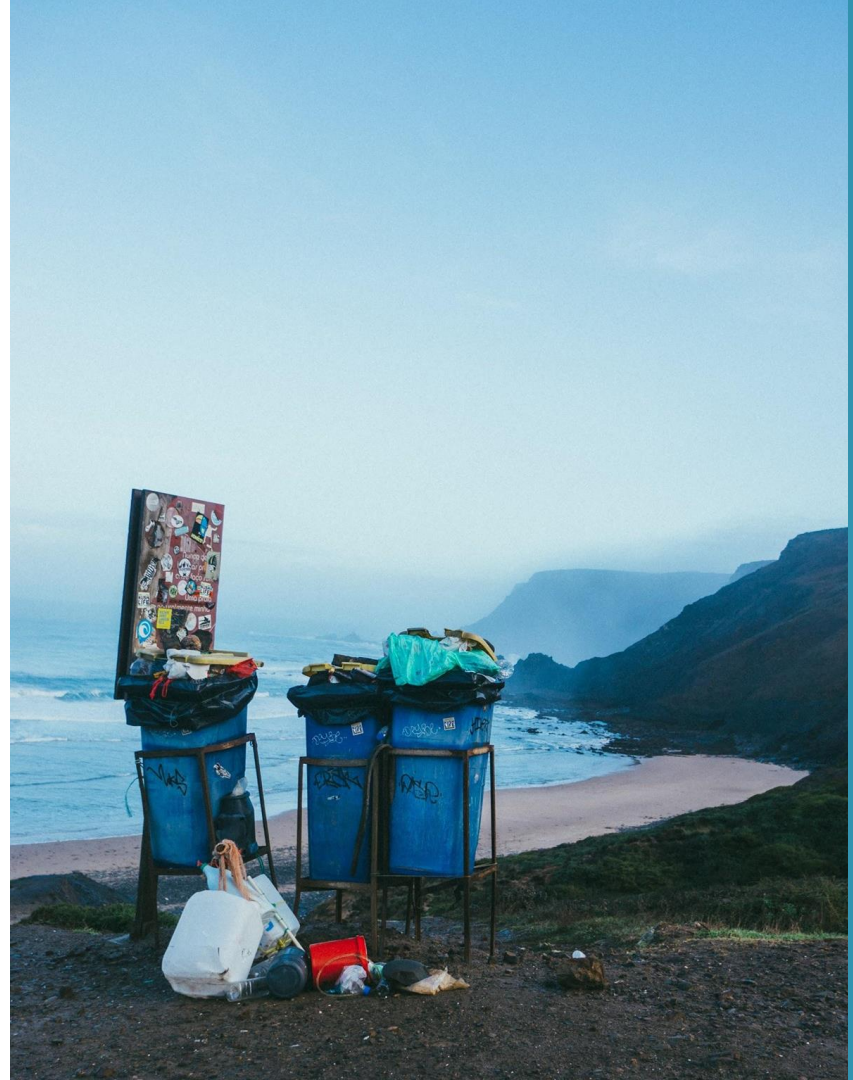
Ministry for Foreign
Affairs of Finland



BACKGROUND TO WATER- WASTE-FOOD PROGRAMME

The world is full of inefficiencies, loss and waste. We need to get smart with the way we create and consume, and look beyond the current take-make-dispose extractive industrial model. Based on the [2020 Environmental Performance Index \(EPI\)*](#), the Nordics have dominated the top 10 (out of 180 countries) for their performance in environmental health and vitality of their ecosystems. As forerunners in the Circular Economy sector, we believe that Nordic innovations and solutions can support and accelerate Singapore's environmental industry to build a cleaner, sustainable and more liveable city.

In 2021, NIH-SG continues to build more opportunities for Nordic technology startups, scale-ups and growth companies operating under the Circular Economy theme. Our Water-Waste-Food Market Entry Programme will provide Nordic companies with opportunities to expand their foothold in Singapore and Southeast Asia. NIH-SG shares the mission to bridge water-waste-food related delegations with its core partners from Business Sweden, Innovation Norway, Embassy of Finland, and Business Iceland.



WHY SINGAPORE

Singapore is well-known as a clean and green city with the government and corporates (such as CapitaLand, Sembcorp Industries and City Developments Limited) striving for environmental sustainability as a national agenda while growing the economy. The government has also identified Environmental and Water Technologies (EWT) including Clean Energy as strategic areas where Singapore has a competitive edge.

To accelerate the growth of the environmental industry and to maintain Singapore's image as a clean and green city, the government has initiated funding and incentive schemes related to energy efficiency, clean energy, green buildings, water and environmental technologies, green transport, waste minimisation, environmental management system, environmental initiatives, clean development mechanism, and green IT.

Source: <http://ssa.sbf.org.sg/resources.html>

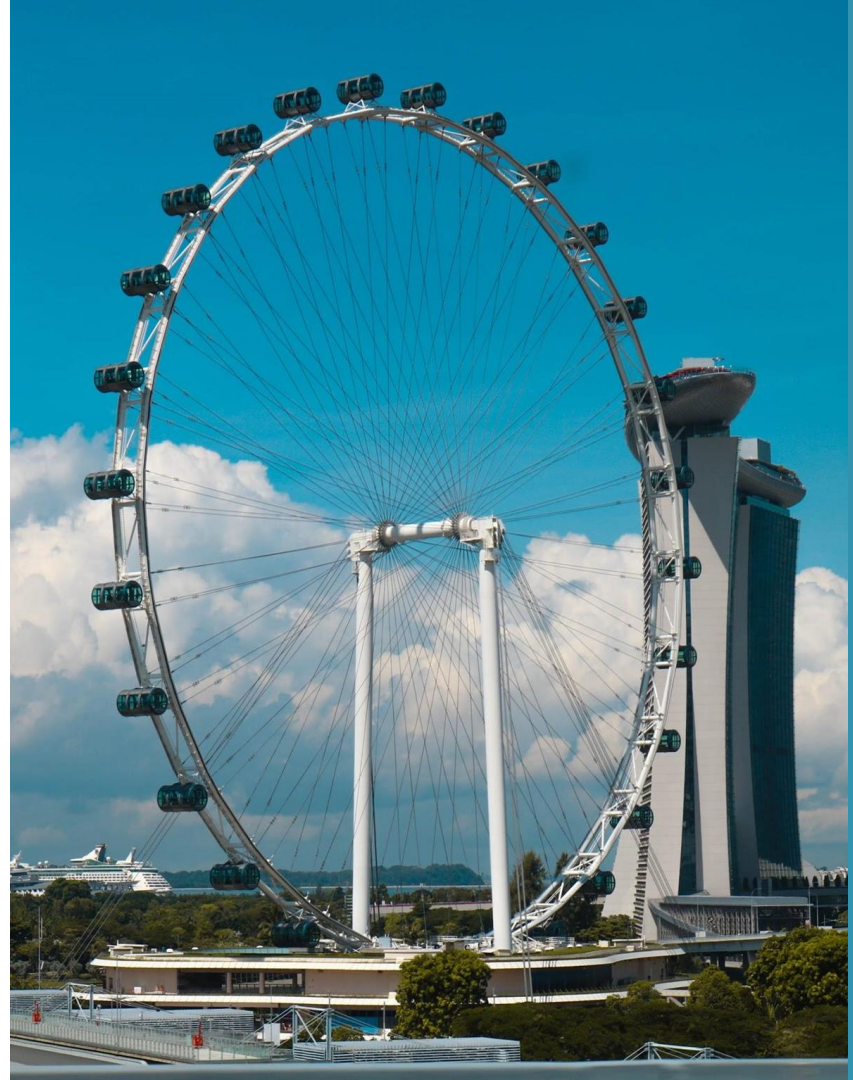


BEYOND SINGAPORE

In a report by [Global Alliance for Incinerator Alternatives](#), across Southeast Asia (SEA), waste is causing tainted water, failed crops and respiratory illnesses. Recycling rates throughout the world, but especially in SEA, remain low. The largest waste generating SEA countries — Indonesia, Philippines, Vietnam, and Thailand are facing system-wide waste management challenges. Attracting high demand for infrastructural development, urbanisation and environmentally sustainable solutions to transform into more liveable cities.

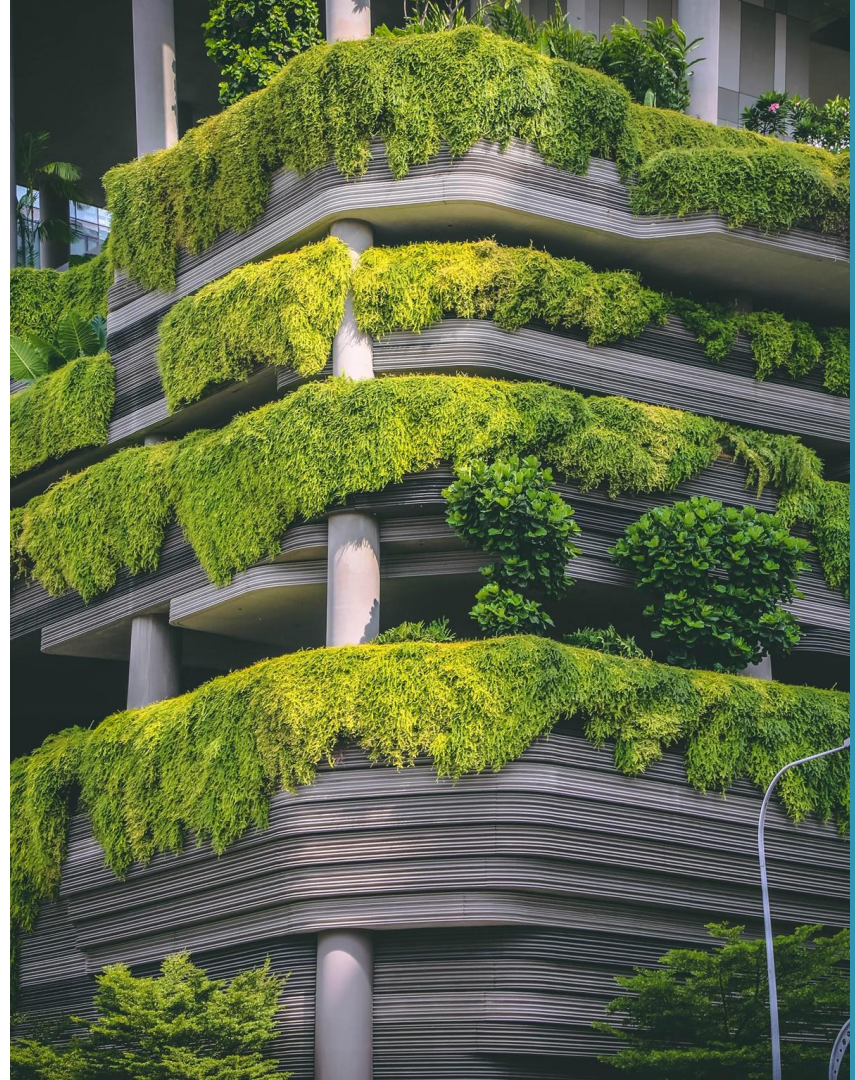
According to the [UN Report on waste management in ASEAN](#), the combination of rapid population growth, urbanisation and more complex waste composition poses significant challenges, but also opportunities. Nordic solutions can play well into ongoing trends for turning waste into value, enhanced producers responsibility and resource management. Adoption of environmentally sound technologies tailored to local conditions is crucial and supported by government, investors and regional organisations such as UN and ADB.

Gateway to Asia: If you are thinking about scaling up quickly in the Asian region, Singapore's strategic geographical location is a gateway to the high-growth markets of SEA. Nordic companies can reach the region by partnering with companies and organisations operating in Singapore and beyond.



SINGAPORE RECOGNITIONS IN WWF AND INNOVATION

1st	2019 IMD Smart City Index - link
2nd	2019 IMD World Digital Competitiveness Ranking - link
1st	2020 IMD World Competitiveness Ranking - link
2nd	2020 World Bank's Ease of Doing Business Ranking - link
3rd	2020 Bloomberg Innovation Index - link
8th	2020 Global Innovation Index (GII) - link
9th	2020 IESE Cities in Motion Index (CIMI) - link
13th	2020 Energy Transition Index: from crisis to rebound - link
17th	2020 The Global Startup Ecosystem Report (GSER) - Global Startup Ecosystem Ranking
39th	2020 Environmental Performance Index (EPI) - link
44th	2020 The Global Sustainable Competitiveness Index - link





**OVERVIEW OF
WATER-WASTE-FOOD
LANDSCAPE IN SINGAPORE**

SINGAPORE'S WASTE AND WATER MANAGEMENT: SEVERE CHALLENGES AND AMBITIOUS INFRASTRUCTURE PROJECTS

Did you know? Singapore will be facing severe waste and water challenges the next decades.

- At very high waste generation per capita, Singapore has insufficient recycling rates, especially for domestic solid waste (only 22%).
- The current waste handling strategy lies in incineration of the 7.7 million tons; and depositing the ash at the [Semakau Landfill](#). However, at the current rate, this landfill will be filled by 2035, and there are no alternative deposition sites.
- Organic waste, especially food waste is currently also incinerated after treatment; representing a huge untapped potential for conversion into fertile soil, fertilizer for domestic and export use and into animal and aquaculture feed.
- Singapore is aiming for water self-sufficiency by 2060, when import contracts with Malaysia expires. Catchment of rainwater covers 20%; while desalination capacity will grow to 30% and so-called [NewWater](#) (treated wastewater) shall cover 50% of future water needs.



^ The [Zero Waste Singapore](#) is a non-profit organization established 2016 to help Singapore eliminate the concept of waste and accelerate towards a circular economy.



SINGAPORE'S WASTE AND WATER MANAGEMENT: SEVERE CHALLENGES AND AMBITIOUS **INFRASTRUCTURE PROJECTS**

Singapore government takes a regional lead on sustainable waste management.

- The government masterplan is to create S\$40M economic opportunity and 30,000 “high-value” jobs in local recycling industry by 2025.
- The long-term strategy for sustainable waste management has 3 core elements:
 - Minimizing the overall amount of waste through the three R's: [Reduce, Reuse and Recycle](#).
 - [Zero Waste Master Plan](#) (now until 2030) – reduce ash deposit with 30%; increase domestic recycling from 22-30%; increase industrial recycling from 74-81%.
 - Position Singapore as regional centre for waste management technology.
- The multi-billion dollar flagship projects [Integrated Waste Management Facility \(solid waste\)](#) and [Tuas Water Reclamation Plant](#) represents opportunities for state-of-the-art technology and solution providers.
- Developing and acquiring advanced water treatment technologies, Singapore is well on its way to obtain water self-sufficiency based on desalination and treatment of used water (called “[NEWater](#)”). Public investment of S\$670M to develop leading water technologies since 2006.



^ The NEWater showroom . Photo: Public Utilities Board



GENERAL WASTE MANAGEMENT: LINEAR TO CIRCULAR STRATEGIES

- Waste management is handled by [National Environment Agency \(NEA\)](#), which plans, develops and administers solid (general) and hazardous waste.
- **Packaging waste** constitutes over 30% of the solid waste (1.6M tons in 2018) and is today largely collected and incinerated.
 - NEA is planning to implement a bottle and can [Deposit Refund Scheme](#) by 2023, and are now consulting external experts (including TOMRA) for scheme design.
- “Foodie country” Singapore generates more than 750,000 tons of **food waste** per year, of which only 18% is recycled, the rest incinerated.
- Under the Resource Sustainability Act, large food waste generators (hawker centres, malls, restaurants, supermarkets etc.) will be required to **implement on-site food waste sorting and treatment** by 2024/25.
- **Problem statements*/opportunities** related to food waste management:
 - Solutions for source **segregation** (sorting) of food waste
 - Solutions to **track and measure** amount of organic/inorganic food waste
 - Space-effective **on-site waste treatment** systems; generating useful outputs

Waste Type	Total Generated (000 tonnes)	Total Recycled (000 tonnes)	Recycling Rate	Total Disposed (000 tonnes)
Construction & Demolition	1,440	1,434	99%	6
Ferrous Metal	1,278	1,270	99%	8
Paper/Cardboard	1,011	449	44%	561
Plastics	930	37	4%	893
Food	744	136	18%	607
Wood	438	289	66%	149
Horticultural	400	293	73%	107
Ash & Sludge	252	25	10%	226
Textile/Leather	168	6	4%	161
Used Slag	129	127	98%	3
Non-Ferrous Metal	126	124	99%	2
Glass	75	11	14%	64
Scrap Tyres	33	31	94%	2
Others (stones, ceramic, rubber, etc.)	210	15	7%	195
Overall	7,234	4,247	59%	2,984

^ [2019 Waste Statistics and Overall Recycling](#). Photo: NEA



INCINERATION AND ASH MANAGEMENT: SHORTAGE OF LAND

- 92% of waste in Singapore is incinerated through incineration plants and ash (top and bottom) is deposited at Semakau Island landfill. The incineration plants provide 3% of electricity generation.
- The 4 incineration plants in Singapore are operated by private companies on long-term contract for waste receipt and energy generation. Thus incineration is expected to be the dominant waste handling solution for the next 5-7 years, despite push for higher recycling.
- However, there are challenges and opportunities for improvements and new solutions on:
 - **Removal of heavy metals and dioxin** in the fly ash (top-ash)
 - **Utilization of ash** for e.g. building materials as alternative to deposit – so called NEWS and ideas.
 - **Material extraction** technologies pre-incineration
 - **New business models** and new prototypes development

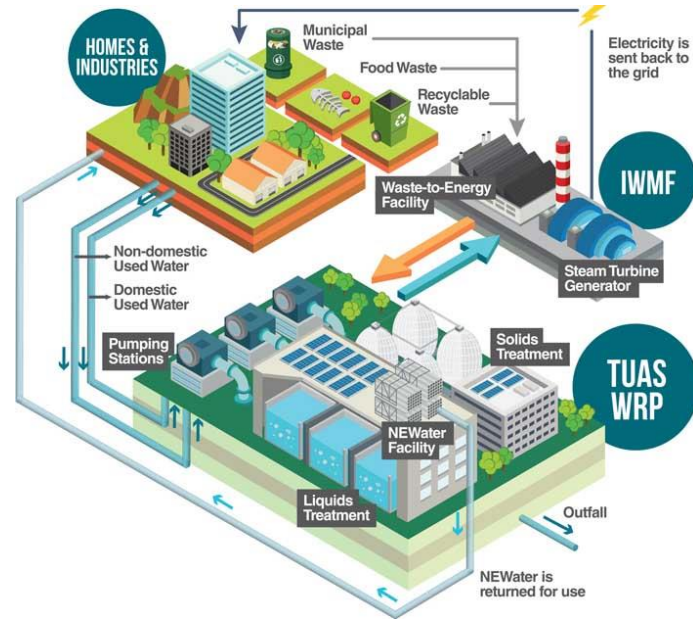


^ Singapore's only landfill, the purpose-built trash island of Semakau, started operations in 1999, and is projected to be completely full by 2035. Photo: NEA



TUAS NEXUS: USD 9.5B FLAGSHIP WASTE AND SLUDGE MANAGEMENT FACILITIES

- The first phase of the [Integrated Waste Management Facility \(IWMF\)](#) will consist of a 2,900 ton/day Waste-to-Energy (WTE) facility; a 250 ton/day Materials Recovery Facility (MRF) handling solid waste from industry and household.
- Designed for 1,98 TWh electricity generation per year.
- For the second phase the [Tuas Water Reclamation Plant \(TWRP\)](#) will be integrated. This facility handles domestic and non-domestic sludge for so-called [NEWater](#) recovery (drinking water).
- The S\$1.5B EPC contract was awarded April 2020 to consortium of [Keppel Seghers](#); [ST Engineering](#) and China Harbour for the WTE and MRF. IWMF expected to be completed by 2024/2025.
- Although the main plant components are in place, developers may be interested in unique and state-of-the-art improvements within:
 - **Maximization of energy recovery** (component design, energy integration, utilization of biogas)
 - **Minimization of environmental impact** (air, land and water emissions)
 - **Efficiency on sludge handling**; reducing energy and space (Norwegian company Cambi has solutions for thermal hydrolysis sludge pre-treatment for both Jurong and Tuas plants)
 - **Integration and synergies** between solid and liquid waste treatment.



^ NEA's Integrated Waste Management Facility (IWMF) and PUB's Tuas Water Reclamation Plant (TWRP) will be co-located to maximize both energy and resource recovery in their respective solid waste and used water treatment processes. The co-located IWMF and TWRP will be the first of its kind that is being planned from ground up. It will enable NEA and PUB to reap the benefits of a water-energy-waste nexus. Photo: PUB



WATER SELF-SUFFICIENCY BY 2060 - THE 4 TAPS OF WATER IN SINGAPORE

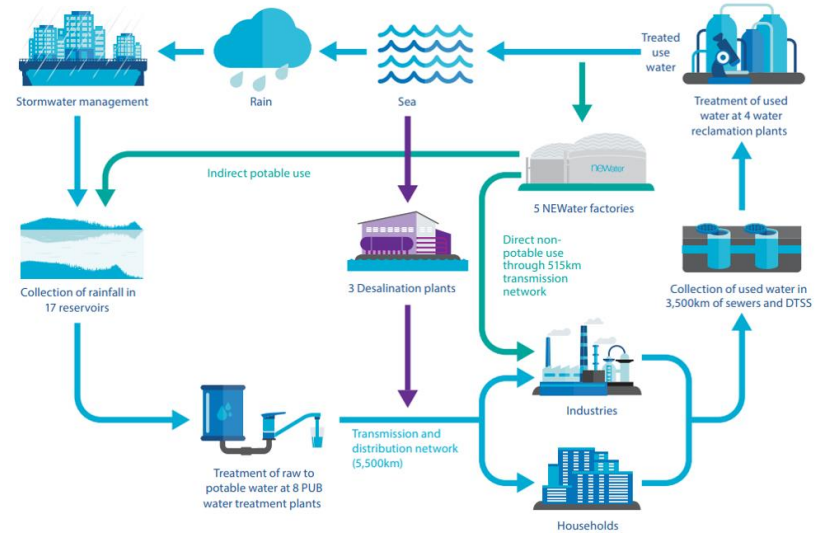
Water supply has always been a major problem and security risk for the small, flat and densely populated island of Singapore.

The government pledges to shift from dependency of imported water from Malaysia to self-sufficient by 2060 through 3 additional sources :

- Rainwater catchment - up to 20% of the water source
- Desalination
- So-called **NEWater**: reused and reclaimed water from household and industry.

In the context of this project, opportunities for Nordic solutions lies in the NEWater segment: technologies for cost- and energy-efficient water purification and treatment; especially related to water extraction and recycling from water treatment facilities.

Every drop counts - Singapore's water story: Our 4 national taps - <https://www.gov.sg/features/every-drop-counts>



^ Diagram of Singapore's integrated water management system. Photo: [PUB](#)



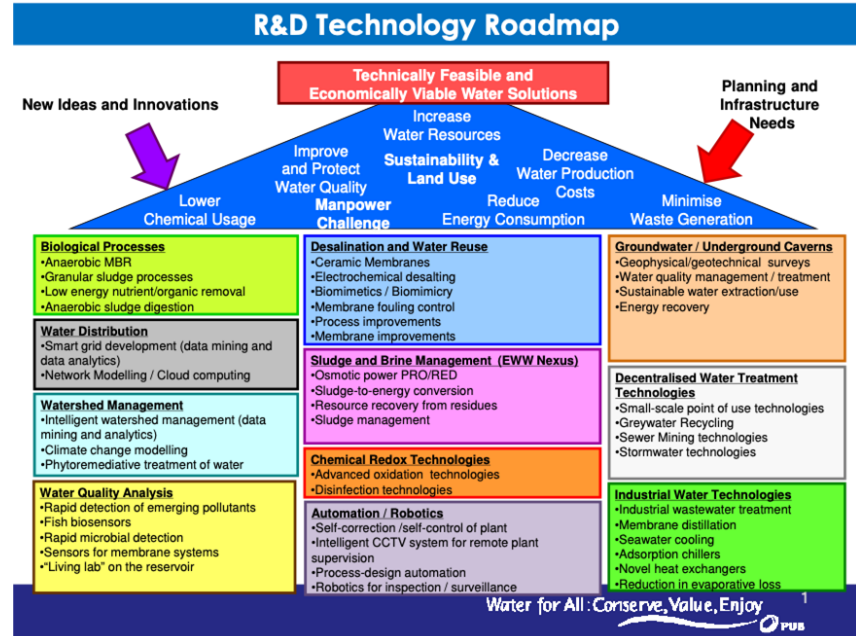
WATER MANAGEMENT: RELEVANT PROBLEM STATEMENT AREAS

The main problem statements related to water management in Singapore are being continuously addressed:

- Improved energy and resource efficiencies for existing and new water treatment plants
- New technologies – membranes, biological, chemical..
- System and plant integration
- From waste removal to Resource Recovery
- Space utilization
- “Smart Nation” – water and waste management in a smart and holistic societal context with energy, transport, living, recreation
- Establishing NEWater plants as test-bedding for new technologies.

Nordic companies may respond to some of these problem statements based on crossover technologies:

- Water purification – experiences from land and petroleum industry
- Membrane technology
- System integration, efficiency
- Resource recovery
- Floating plant solutions – Multi Purpose Floating Structures



^ R&D Technology Roadmap. Photo: [PUB](#)



THE SMART PUB ROADMAP

Transforming PUB into the Smart Utility of the Future



SMART DRAINAGE GRID

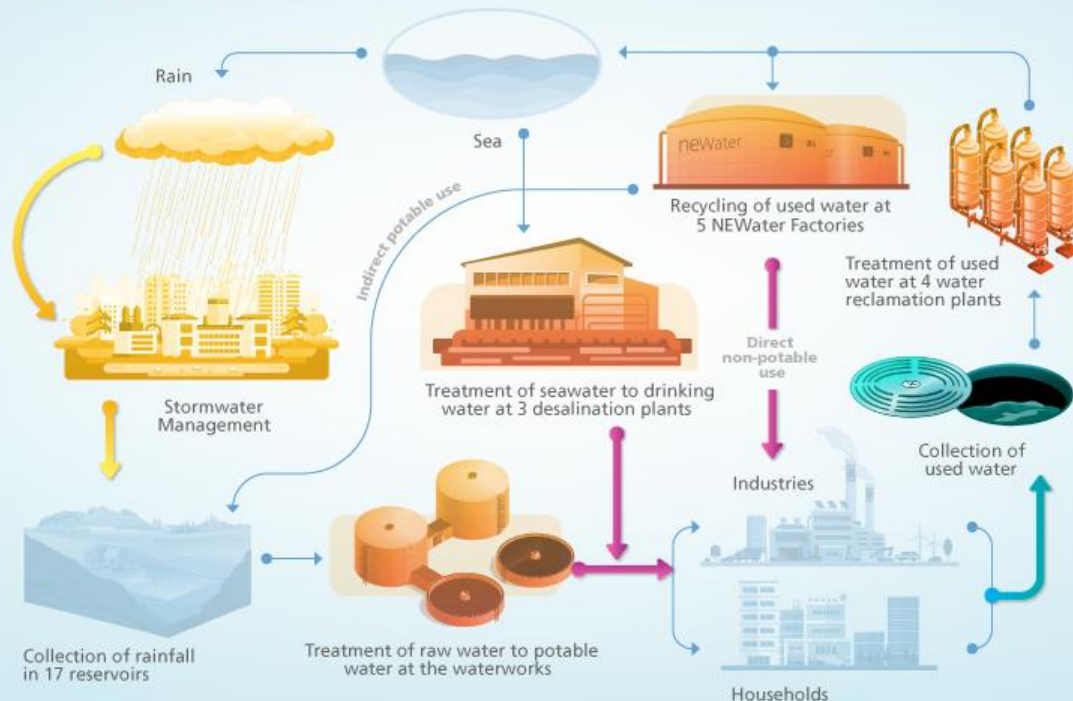
- Hydrometeorological and water quality monitoring
- Strategic planning and maintenance of infrastructure

SMART PLANTS

- Data-driven Decision Support with machine learning
- Autonomous systems to perform manual, high risk jobs
- Diagnostic troubleshooting

SMART WATER GRID

- Extensive monitoring of network pressure, flow and water quality
- Pre-emptive leak detection
- Predictive load dispatch: Using demand forecasting enabled by pervasive sensing and data analytics



DIGITAL OPERATIONS SUPPORT

- 360° situational awareness and system oversight with improved operations dashboards and mobile connectivity
- Reducing wastage and enhancing resilience with data analytics
- Enhancing productivity by automating manual workflows
- Encouraging collaboration and knowledge sharing through digital platforms

SMART SEWER GRID

- Pre-emptive asset repair and replacement
- Monitoring network and tunnel structural integrity
- Illegal discharge tracing and modelling



PUTTING IT ALL TOGETHER - THE FUTURE OF WATER-WASTE-FOOD INFRASTRUCTURE LANDSCAPE

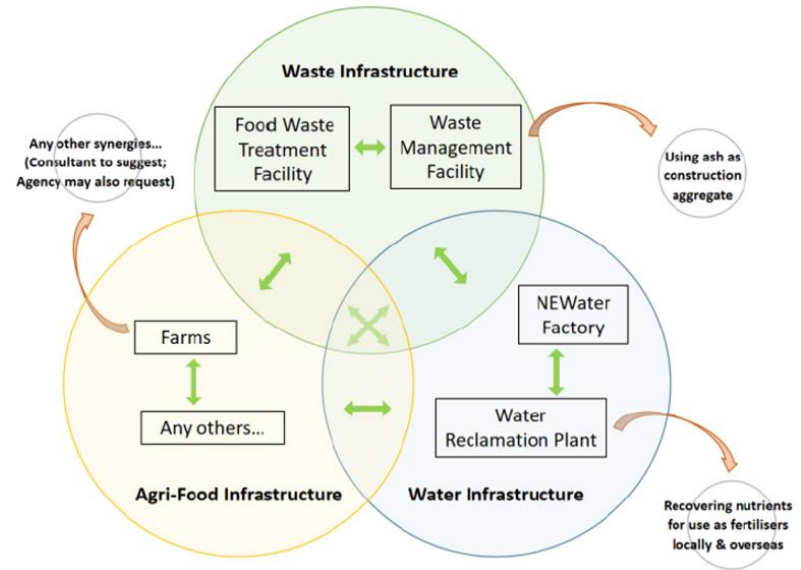
The Singapore government will make heavy investments over the next 2-3 years to harness synergies across the water, waste and food infrastructure landscape. Identifying technologies and solutions to become operational within the next 10 years.

The short-term (2-3 years) objectives include:

- Identify **additional synergies** from the [Tuas NEXUS](#).
- Identify and assess **applicable technologies** for water-waste-food infrastructure integration – cost effective and practical.

Solutions and technologies shall address the future integrated infrastructure landscape comprising:

- **Waste** management facilities: municipal solid waste; recyclables; source-segregated food waste and dewatered sludge
- **Water** reclamations plant (producing NEWater)
- **Farms**: aquaculture, plant/vegetable, poultry etc.
- **Ancillary facilities**: cooling, heating, power generation, carbon capture/utilization etc.



PUTTING IT ALL TOGETHER - THE FUTURE OF WATER- WASTE-FOOD INFRASTRUCTURE LANDSCAPE

Examples of problem statements include:

- **Organic waste – recovery of nutrients**
 - Extract nutrients and trace substances from water reclamation
 - Produce fertilizers for national agriculture (hydroponic..), aquaculture and for export
- Optimize **Waste-to-energy** processes: sludge valorising; various forms of gasification; hydrothermal liquefaction/catalytic gasification..
- **CO2 utilization**: chemical binding (carbonates..)
 - landfill/building materials;
 - utilization in farming and aquaculture (algae/crop growth, biochar, fertilizers..)
- **Energy/exergy optimization**: adopting emerging trends and technologies for harnessing, reusing and storing residual heat and cold energy; energy carrier conversion (power-to-X etc)

The recent migration in policy from “linear” to more “circular” resource management in Singapore opens for new objectives and opportunities for Nordic solutions across the integrated water-waste-food infrastructure landscape.



Ministry of Sustainability
and the Environment
— SINGAPORE —



National
Environment
Agency

Safeguard • Nurture • Cherish



Singapore
Food
Agency

Safe Food For All



SINGAPORE'S
NATIONAL
WATER AGENCY

^ The MEWR Family: [Ministry of the Environment and Water Resources \(MEWR\)](#), [Public Utilities Board \(PUB\)](#): Water Management; [National Environment Agency \(NEA\)](#): Waste and [Singapore Food Agency \(SFA\)](#).



THE OPPORTUNITIES FOR NORDIC SOLUTIONS

Waste Management:

- Solutions for waste collection, measuring segregation, sorting and transport from household and eateries/shops. Especially relevant for **food waste** given NEA's [new regulations](#) starting 2021.
- Solutions related to the [Deposit Refund Scheme](#) for packaging to be implemented by 2022.
- Solutions for consumer awareness and engagement in reducing waste, sorting and reuse.
- Solutions for converting waste to value; such as [food waste to fertilizer](#) or fish feed.
- Technologies for improved energy, space and resource efficiency for the current and future waste treatment related to [Waste-to-Energy](#).

Water & Food Management:

- Technologies for enhanced energy/cost efficiency for water treatment and [water use reduction](#) across all sectors from households to industry.
- Water and resource management related to [local food production](#): agriculture and aquaculture, including RAS.



Gateway to Southeast Asia (SEA):

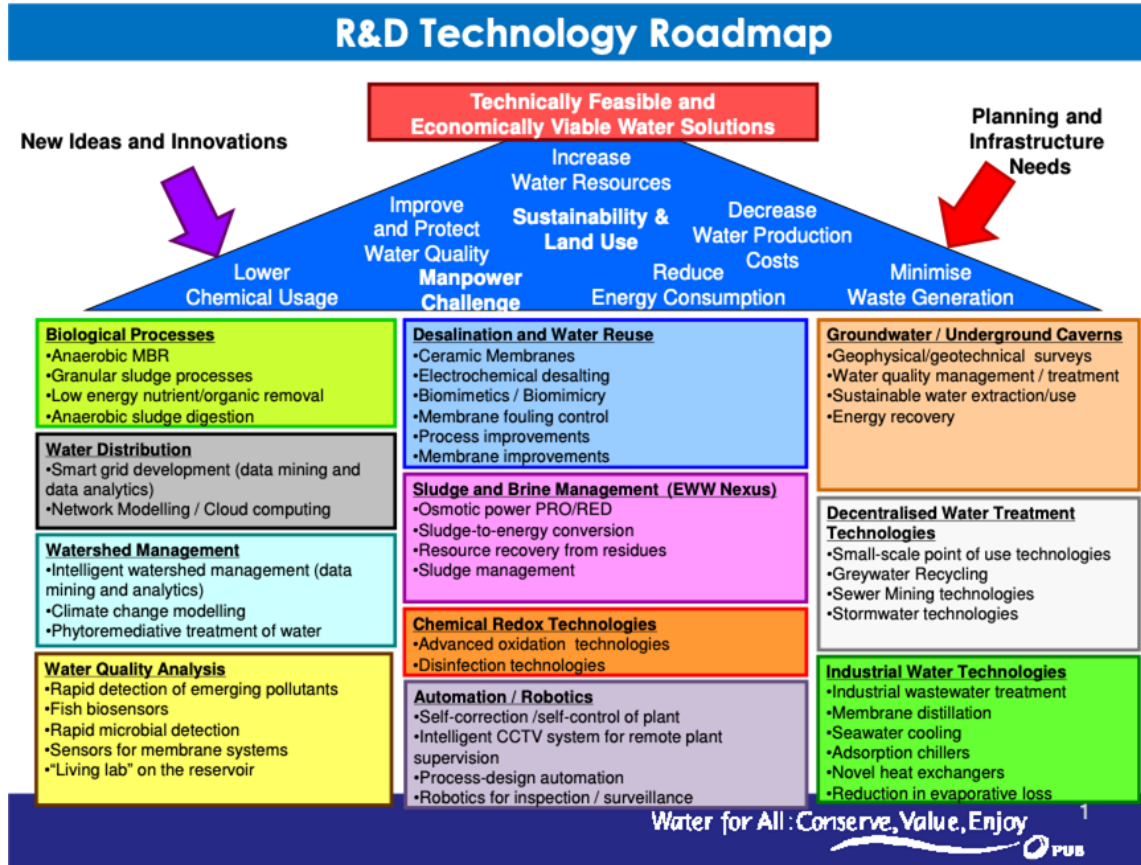
- With 12% of the world's population and among the fastest growing prosperity and urbanisation regions, SEA represents one of the most relevant markets for sustainable waste, water and food solutions.
- Most of the multinational companies operating in the SEA waste and water management industries in SEA have regional headquarter or offices in Singapore, offering effective gateways into SEA markets for relevant solutions.
- This program will aim to connect Nordic participants with regionally acting stakeholders in Singapore to address opportunities in selected SEA countries such as Vietnam.



An aerial photograph of a tropical coastline. The top half of the image shows a dense, lush green forest covering a hillside. Below the forest is a wide, white sandy beach. The bottom half of the image shows the ocean with waves breaking onto the shore. The entire image has a semi-transparent blue overlay.

WATER-WASTE-FOOD PROBLEM STATEMENT AREAS

WATER MANAGEMENT PROBLEM STATEMENTS AREAS



WATER MANAGEMENT PROBLEM STATEMENTS AREAS

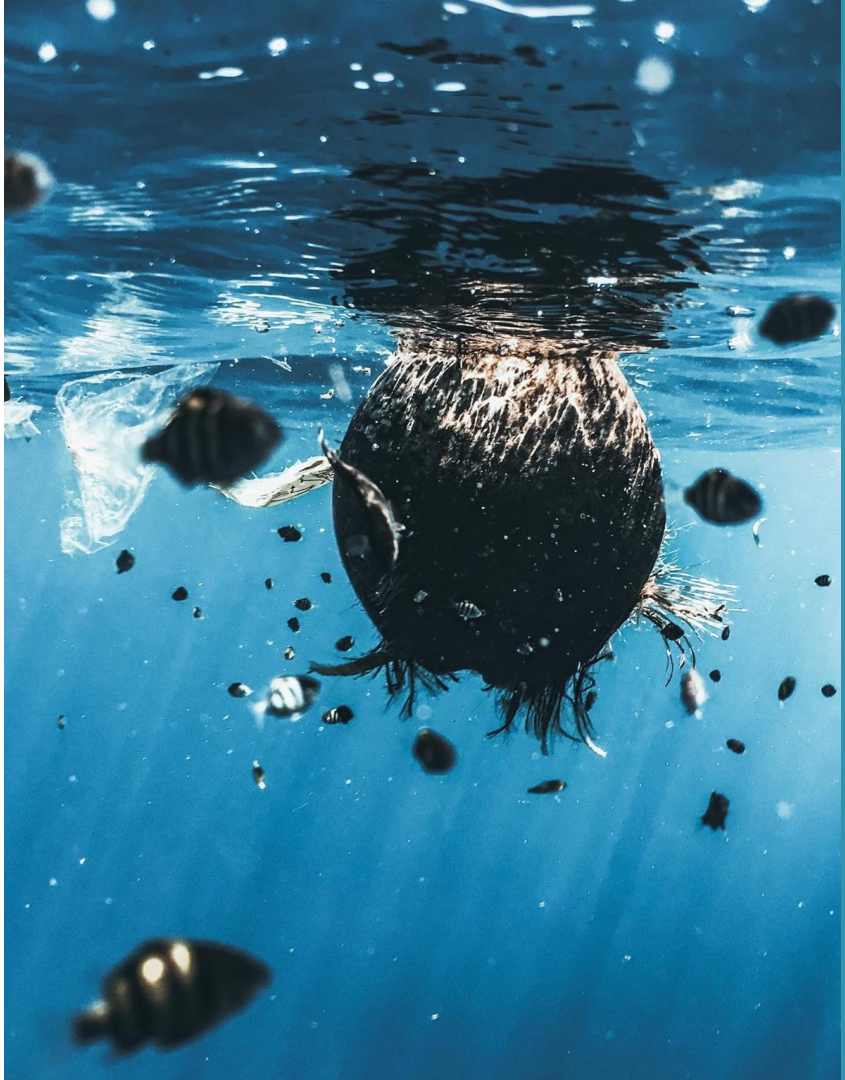
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- “Smart Nation” – water and waste management in a smart and holistic societal context with energy, transport, living, recreation
- Establishing NEWater plants as test-bedding for new technologies.

Also, Nordic companies may respond to some of these problem statements based on **cross-over technologies in water management:**

- Water purification – experiences from land and petroleum industry
- Membrane technology
- System integration, efficiency
- Resource recovery
- Floating plant solutions – Multi Purpose Floating Structures

**We might include new problem statement areas later on*



WASTE MANAGEMENT PROBLEM STATEMENTS AREAS

Waste and sludge management facilities related opportunities for companies with relevant solutions within:

- Maximization of energy recovery (component design, energy integration, utilization of biogas)
- Minimization of environmental impact (air, land and water emissions)
- Efficiency on sludge handling; reducing energy and space (Cambi is offering their pyrolysis solution for example)
- Integration and synergies between solid and liquid waste treatment.

Incineration and ash management related challenges and opportunities for improvements and new solutions on:

- Removal of heavy metals and dioxin in the fly ash (top-ash)
- Utilization of ash for e.g. building materials as alternative to deposit – so-called NEWS and ideas.
- Material extraction technologies pre-incineration
- New business models and new prototypes development

**We might include new problem statement areas later on*



FOOD WASTE MANAGEMENT

PROBLEM STATEMENTS AREAS

Problem statements /opportunities related to **food waste management**:

- Solutions for source segregation (sorting) of food waste
- Solutions to track and measure amount of organic/inorganic food waste
- Space-effective on-site waste treatment systems; generating useful outputs

**We might include new problem statement areas later on*



ONGOING CIRCULAR ECONOMY RELATED INNOVATION CHALLENGES IN SINGAPORE: CAPITALAND SUSTAINABILITY X CHALLENGE

Application Deadline: 17th February 2021

Challenge Website:

<http://www.capitalandsustainabilityxchallenge.com/>

Managed by [Eco-Business](#) and supported by NUS Enterprise, the challenge calls for innovative proposals from all over the world to make buildings more climate-resilient and resource-efficient, combating climate change and ensuring the well-being of building occupants and users. **Challenge Themes:**

- Low carbon transition
- Water conservation & resilience
- Waste management & circular economy
- Healthy & safe buildings

DEADLINE
EXTENDED



Can your innovation make
buildings more climate-resilient
and resource-efficient?

Enter the challenge now

Before 17 February 2021
2359hrs Singapore Time (GMT+8)



ONGOING CIRCULAR ECONOMY RELATED INNOVATION CHALLENGES IN SINGAPORE: CALL TO REDUCE FOOD WASTE DISPOSAL FROM COMMERCIAL PREMISES AND ENHANCE RECYCLING

Application Deadline: 19th February 2021

Website: <https://www.nea.gov.sg/programmes-grants/grants-and-awards/call-to-reduce-food-waste-disposal-from-commercial-premises-and-enhance-recycling>

- Improved source segregation of food waste by stakeholders (tenants, cleaning staff or patrons)
- To accurately track and measure the amount of segregated (between organic and inorganic) food waste generated by tenants within premises
- A robust on-site food waste treatment system that optimises use of limited space and generates useful, viable by-products for premises



Challenges faced

Resource Sustainability Act



Mandatory food waste segregation for treatment from 2024/2025

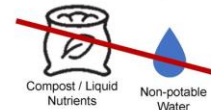
Lack of food data to track tenants' food waste segregation efforts



High Contamination of Food Waste



Outputs from existing on-site food waste treatment systems are not fully utilised by premises



ONGOING CIRCULAR ECONOMY RELATED INNOVATION CHALLENGES IN SINGAPORE: SUSTAINABILITY OPEN INNOVATION CHALLENGE

Application Deadline: 19th February 2021 12:00 PM (GMT +8)

Challenge Website: [Enterprise Track](#) / [Industry Track](#)

Access to clean air, clean water, power, and sanitation are challenges faced in many countries. Low-lying coastal communities such as Singapore are also more vulnerable to rising sea levels due to climate change. Globally, individuals, public agencies and companies - small and large - will need to work together to develop solutions for sustainable development.

This call leverages Singapore's commitment to develop new technologies or solutions for key sustainability areas such as Waste Reduction, Green Transport, Green Packaging, Renewable Energy and Resource Efficiency in two tracks - Enterprise and Industry.



ONGOING CIRCULAR ECONOMY RELATED INNOVATION CHALLENGES IN SINGAPORE: THE LIVEABILITY CHALLENGE

Application Deadline: 15th January - 15th April 2021

Challenge Website: <https://www.theliveabilitychallenge.org/>

The Liveability Challenge (TLC) is a global platform that hunts for and accelerates the launch of innovative solutions to urban challenges of the 21st century in cities in the tropics. Offering Asia's biggest prize for sustainability solutions, and the only platform seeking ideas for cities in the world's tropical belt, TLC is a key highlight in Singapore's calendar of sustainability events.

TLC is accepting proposals with the most disruptive, game-changing ideas that will help cities **accelerate decarbonisation** and **address its resource challenges**. Finalists will pitch their solutions to some of Asia's most sought-after investors at TLC Grand Finale (June or July) for the chance to secure up to S\$1 million in grant funding, and other exclusive opportunities.



Think you have a million-dollar idea?

NOW ACCEPTING SOLUTIONS TILL 15 APRIL 2021!

PRESENTED BY

**TEMASEK
FOUNDATION**

ORGANISED BY

 **Eco-Business**



WATER-WASTE-FOOD MARKET ENTRY PROGRAMME OVERVIEW

**Programme Partner
Introduction Webinars**

**Showcasing
Opportunities**

**Business and Technology Matchmaking
with Clients, Partners, and Investors**

**Customised Individual
Meeting Programme**

**Nordic Innovation House Singapore
12-month Membership**

Follow-up Support for 12-months

WWF MARKET ENTRY PROGRAMME **CONCEPT**

Identify and validate potential companies



ACTIVE CLUSTER(S) WITH:

- Sufficient pool of quality startups, scaleups and growth companies
- Network partners identified
- Active trade promotion actors
- Support programs available

**PROBLEM
STATEMENTS**



**PROGRAMME
DELEGATION**



Engage and gather briefs/problem statements



ACTIVE CLUSTER(S) WITH:

- Infrastructure and active community
- Private and public cluster
- Government agencies
- Investors
- Academia
- Problem statements available
- Regional potential in Southeast Asia



WWF MARKET ENTRY PROGRAMME TIMELINE

01 / January	02 / February	03 / March	04 / April	05 / May
<ul style="list-style-type: none"> Collecting problem statements and briefs from partners in Singapore 	<ul style="list-style-type: none"> Innovation Norway, Business Sweden, Embassy of Finland, Promote Iceland, clusters + NIH-SG marketing efforts towards Nordic companies 	<ul style="list-style-type: none"> Partner and problem statement introduction webinars 	Programme preparation webinars <ul style="list-style-type: none"> 1st preparation webinar: 5.4 2nd preparation webinar: 15.4 	<ul style="list-style-type: none"> Support with needed follow-ups
	<ul style="list-style-type: none"> Application period: 25.1 - 8.3 	<ul style="list-style-type: none"> Application deadline: 8.3 	Coaching sessions <ul style="list-style-type: none"> Between 6.4 - 14.4 	<ul style="list-style-type: none"> NIH-SG membership benefits for 12 months
	<ul style="list-style-type: none"> Partner and problem statement introduction webinars 	<ul style="list-style-type: none"> Selection and announcement of Nordic companies 	Programme weeks <ul style="list-style-type: none"> WEEK 1: 19.4 - 23.4 WEEK 2: 26.4 - 30.4 	



WWF MARKET ENTRY PROGRAMME PHASES

PHASE 1: Insights & Information	PHASE 2: Preparations	PHASE 3: Virtual Programme Weeks
<ul style="list-style-type: none">• This phase is for all Nordic tech startups, scaleups and growth companies that are interested to find out more about opportunities in waste-water-food areas in Singapore.• Programme partner introduction webinars to provide more details about problem statements.• This phase is free of charge and open for all Nordic participants. Companies need to apply to the programme after this phase.	<ul style="list-style-type: none">• For Nordic startups, scaleups and growth companies that are selected to the program and have committed to participate (= signed the programme contract)• Two preparation webinars for programme participants• Individual coaching session with NIH-SG team	<ul style="list-style-type: none">• Series of programme partner webinars and pitching in groups• Series of 1-to-1 meetings with programme partners• Investor pitching• Technology matchmaking webinars• Closing event <p><i>*Detailed programme schedules will be provided later on</i></p>
<p>Objectives:</p> <ul style="list-style-type: none">• Provide an overview of the programme, different partners and their problem statements and the water-waste-food landscape and opportunities in Singapore	<p>Objectives:</p> <ul style="list-style-type: none">• Provide a deeper understanding of the upcoming programme, programme partners and their problem statements and regulatory landscape in Singapore.	<p>Objectives:</p> <ul style="list-style-type: none">• Companies have a clear understanding of waste-water-food landscape and what kind of business opportunities it provides for them. To introduce Nordic companies to all major stakeholders and create potential business leads for Programme participants.• NIH-SG team will also help with follow-ups after the programme



INTERACTING WITH SINGAPORE STAKEHOLDERS (WIP*)

Participants will potentially have an opportunity to present to and virtually meet:

- Ministry of Sustainability and Environment - [link](#)
- National Environment Agency (NEA) - [link](#)
- Public Utilities Board (PUB) Singapore's National Water Agency - [link](#)
- Singapore Food Agency (STA) - [link](#)
- Waste Management and Recycling Association of Singapore (WMRAS) - [link](#)
- CapitaLand - [link](#)
- Enterprise Singapore (ESG) - [link](#)
- Innovation Partner for Impact (IPI) Singapore - [link](#)
- Asian Development Bank Ventures (ADB Ventures) - [link](#)
- United Nations Development Programme (UNDP) Singapore Global Centre for Technology, Innovation & Sustainable Development - [link](#)
- Alliance to End Plastic Waste - [link](#)
- Our Tampines Hub - [link](#)
- ST Engineering - [link](#)
- Sembcorp Industries (Environmental Management) - [link](#)
- Veolia Singapore (Environmental) - [link](#)
- JTC Corporation - [link](#)
- Black & Veatch - [link](#)
- City Developments Limited (CDL) Sustainability - [link](#)
- Surbana Jurong - [link](#)
- Singapore Management University (SMU) Institute of Innovation and Entrepreneurship (IIE) - [link](#)

**This list of stakeholders is work-in-progress*



WWF MARKET ENTRY PROGRAMME PACKAGE

Programme package includes:

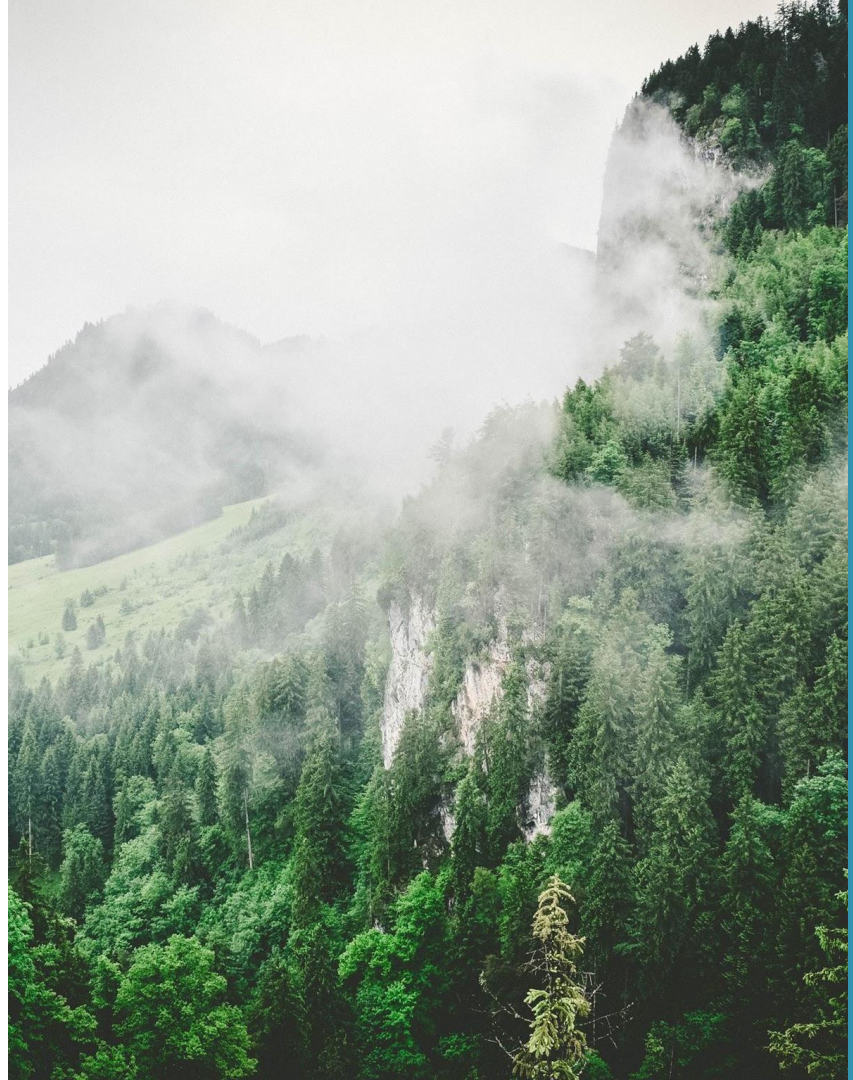
- Material package and briefing
- Series of preparation webinars
- Preparation support with presentations and pitching
- Group sessions and tailored individual virtual meetings
- Virtual investor pitching event
- Virtual technology matchmaking event
- Visibility in NIH-SG Water-Waste-Food Market Entry Programme marketing and communication materials
- 12-month NIH-SG membership with all benefits

Participation fee:

- SGD 4,000 (excluding 7% GST) per company*
- Participation fee for existing NIH-SG members is the same. You will get 12-month membership extension for free. This will be added to your existing contract period.

**For Danish companies, the participation fee will be double.*

[Email](#) us for more info.



WWF MARKET ENTRY PROGRAMME **HOW TO APPLY**

Eligibility Criteria

- Company from Finland, Sweden, Norway, Iceland, or Denmark
- Have digital/tech solutions to address challenges in water-waste-food sectors in Singapore and Southeast Asia

**Looking for new market entry opportunities in this region?
Follow the steps below to join our programme in April.**

Step 1	Read this current WWF Market Entry Programme 2021 Deck for programme structure and package. http://bit.ly/nihsg-wwf-deck-21
Step 2	Submission deadline: 8 March 2021 Apply for the programme using this form: http://bit.ly/nihsg-wwf-apply-21
Step 3	Be patient while we review your application. Our NIH-SG team will contact you via email if you have been selected for the programme.



NORDIC INNOVATION HOUSE SINGAPORE CONTACTS

Nordic Innovation House Singapore (NIH-SG) with its core partners; Business Sweden, Innovation Norway, Embassy of Finland, and Business Iceland will be co-organising this virtual programme in April. If you have any questions, email your country representative or team NIH-SG for assistance.

Innovation Norway	Per Christer Lund Science and Technology Counsellor Board Member of Nordic Innovation House Singapore	per.christer.lund@innovasjon Norge.no
Business Sweden	Marcus Kuusinen Project Manager	marcus.kuusinen@business-sweden.se
Embassy of Finland	Riku Mäkelä Counsellor for Innovation and Trade Board Member of Nordic Innovation House Singapore	riku.makela@formin.fi
Business Iceland	Halldór Elís Ólafsson Trade Representative (Japan, Singapore, Philippines, Indonesia) Board Member of Nordic Innovation House Singapore	halldor.olafsson@utn.is
Nordic Innovation House Singapore	Sami Jääskeläinen, Community Director Jacqueline Chen Community Manager	sami.jaaskelainen@nordicinnovationhouse.com jacqueline.chen@nordicinnovationhouse.com



NORDIC INNOVATION HOUSE TEAM IN SINGAPORE



WHAT TO EXPECT?

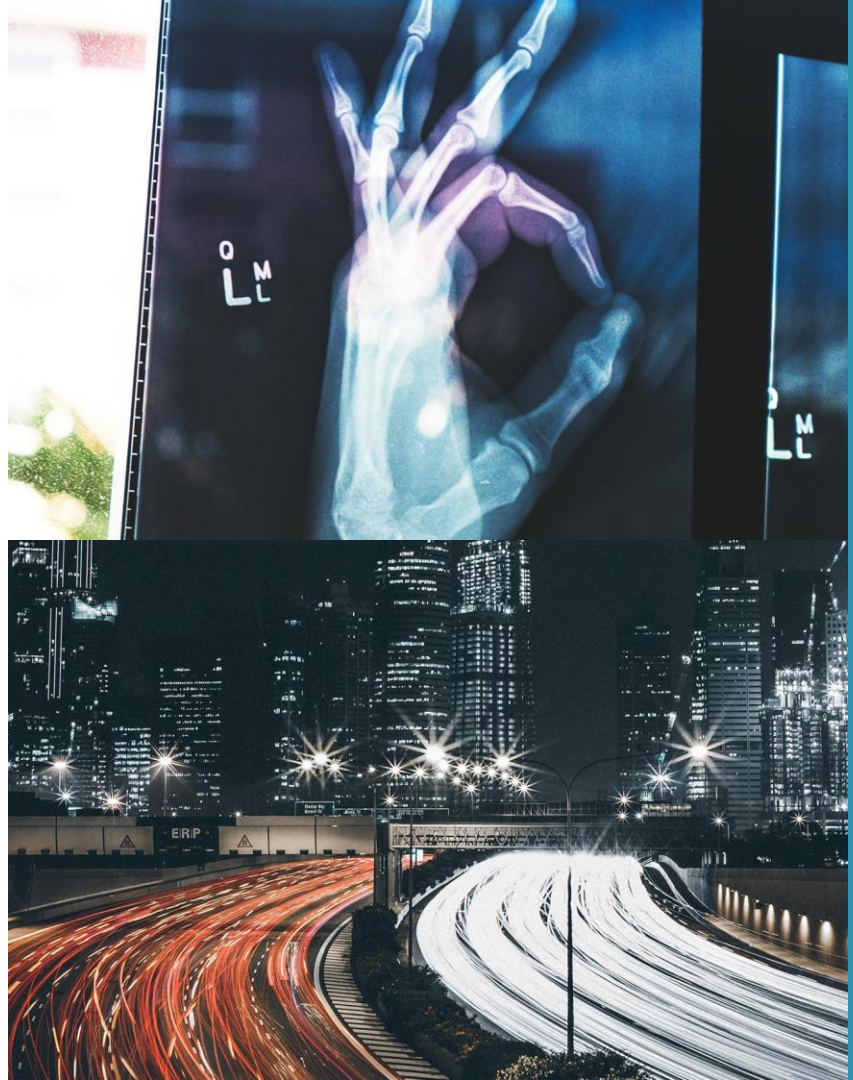
In 2020, NIH-SG has organised two virtual market entry programmes themed Nordic Health and Smart Cities. Discover the summary of activities in each theme below!

2020 Nordic Health Virtual Market Entry Programme: Week 1 & 2 Summary (14.09.2020 - 25.09.2020)

- <https://www.nordicinnovationhouse.com/singapore/singapore-programs/nih-sg-nordic-health-virtual-market-entry-programme-2020-summary>
- Connected over 160 healthcare professionals, academics, innovators, and investors with [18 selected Nordic companies](#).

2020 Smart Cities Virtual Market Entry Programme: Week 1 & 2 Summary (12.10.2020 - 23.10.2020)

- <https://www.nordicinnovationhouse.com/singapore/singapore-programs/nih-sg-smart-cities-virtual-market-entry-programme-2020-summary>
- Connected over 200 smart city professionals, academics, innovators, and investors with [17 selected Nordic companies](#).



USEFUL LINKS

Ministry of Sustainability and the Environment - <https://www.mse.gov.sg/>

National Environment Agency (NEA) - <https://www.nea.gov.sg/>

Waste Management: <https://www.nea.gov.sg/our-services/waste-management>

Food Waste: www.nea.gov.sg/our-services/waste-management/3r-programmes-and-resources/food-waste-management

PUB, Singapore's National Water Agency - <https://www.pub.gov.sg/>

20 - 24 June 2021 Singapore International Water Week - <https://www.siww.com.sg/>

20 - 24 June 2021 World Cities Summit: Liveable and Sustainable Cities: Adapting to a Disrupted World - <https://www.worldcityessummit.com.sg/>

20 - 24 June 2021 CleanEnviro Summit Singapore (CESG) - <https://www.cleanenvirosummit.gov.sg/>

IPI Tech Expert White Paper on Sustainable Industrial Wastewater Management - <https://bit.ly/download-tech-expert-wasterwater-whitepaper>

Every drop counts - Singapore's water story: Our 4 national taps - <https://www.gov.sg/features/every-drop-counts>

Capitaland 2030 Sustainability Master Plan <https://www.capitaland.com/content/dam/capitaland-sites/international/about-capitaland/sustainability/xchallenge/doc/CapitaLand%202030%20Sustainability%20Master%20Plan.pdf>

Singapore's Towards Zero Waste Masterplan - <https://www.towardszerowaste.gov.sg/zero-waste-masterplan/>

2020 Guide to Singapore Government Funding and Incentives for the Environment

<http://www.greenfuture.sg/2020/02/16/2020-guide-to-singapore-government-funding-and-incentives-for-the-environment/>



USEFUL LINKS

PUB, NEA find a way to convert sludge and food waste into energy <https://www.straitstimes.com/singapore/pub-nea-find-a-way-to-convert-sludge-and-food-waste-into-energy>

Leadership in sustainability: Where does Singapore stand?
<https://www.eco-business.com/opinion/leadership-in-sustainability-where-does-singapore-stand/>

Turning trash into treasure: NEA to reuse landfill material
<https://www.straitstimes.com/singapore/turning-trash-into-treasure-nea-to-reuse-landfill-material>

How to make a nation of food lovers value food
<https://www.straitstimes.com/opinion/how-to-make-a-nation-of-food-lovers-value-food>

Beyond the 3 Rs: How can Singapore move forward on sustainability?
<https://www.businesstimes.com.sg/brunch/beyond-the-3-rs-how-can-singapore-move-forward-on-sustainability>

'It is not easy, but it can be done' - The challenges of raising Singapore's recycling rate
<https://www.channelnewsasia.com/news/singapore/in-focus-singapore-recycling-sustainability-blue-bins-waste-12972634>

Turning Singapore's trash to treasure <https://www.straitstimes.com/singapore/turning-trash-to-treasure-0>

Food too good to waste <https://www.straitstimes.com/singapore/food-too-good-to-waste>

Work begins on Singapore's first integrated water and solid waste treatment plant in Tuas
<https://www.straitstimes.com/singapore/environment/work-begins-on-singapores-first-integrated-water-and-solid-waste-treatment>



A blue-tinted photograph of a city skyline at night, likely Singapore, with several skyscrapers illuminated. In the foreground, the silhouette of a person with long hair is visible, looking towards the city. The overall mood is professional and modern.

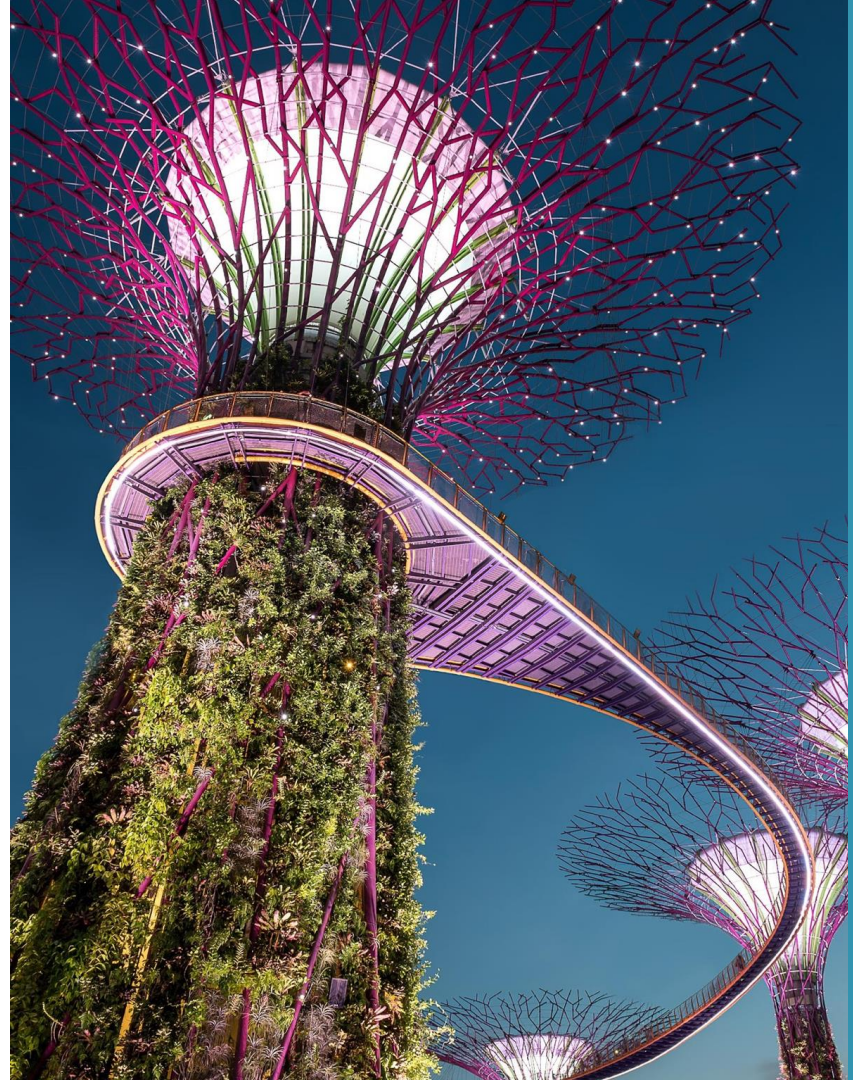
SINGAPORE STARTUP ECOSYSTEM LANDSCAPE

SINGAPORE IS THE GATEWAY TO SOUTHEAST ASIA

There are US\$300B worth of opportunities in Southeast Asia's fast growing Internet economy. Southeast Asia provides a fertile environment for tech companies to grow, attracting many entrepreneurs and innovators to explore and scale tech solutions.

High Growth: Valued at US\$ 100B today, the region's internet economy is expected to grow 3x by 2025. Known to be the premier startup launchpad of Southeast Asia, Singapore is one of the most vibrant ecosystems in Asia with excellent funding opportunities, market reach and startup experience.

Singapore is the innovation hub, springboard and crossroad of 650M+ people in Southeast Asia.



SINGAPORE ECOSYSTEM LANDSCAPE

Top 3 in the world for least corrupted in economy

4th globally for IP protection

3rd largest global finance centre

Top 10 Global Startup Ecosystems by Compass.co.

1st CISCO Digital Readiness Index 2019

1st IMD World Competitiveness Ranking 2020

1st Oliver Wyman Urban Mobility Readiness 2020

3rd Bloomberg Innovation Index 2020



SINGAPORE ECOSYSTEM LANDSCAPE

130+ co-working spaces

100+ accelerator incubator programs

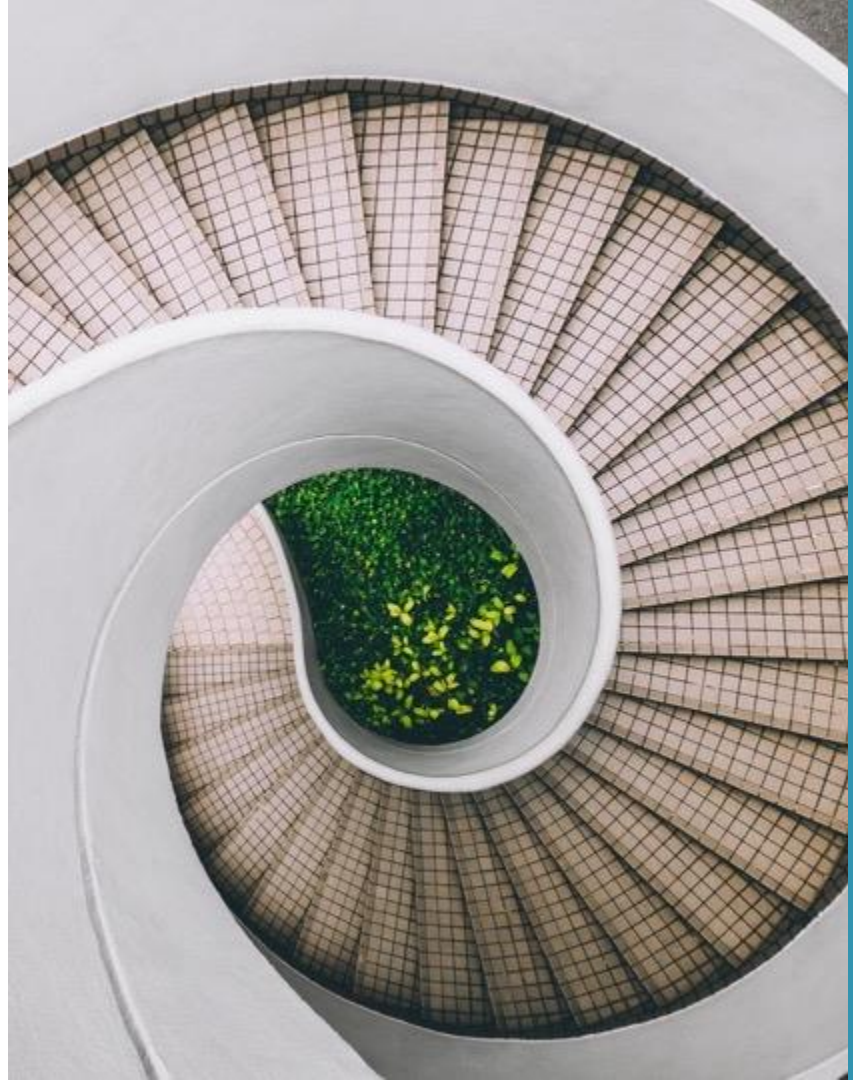
40+ corporate innovation labs

Only hours to register a new startup business

150+ active VC firms with regional presence

2000+ registered investors

7000+ MNC's regional headquarters



SINGAPORE ECOSYSTEM LANDSCAPE

4300+ startups

5 **UNICORNS** (startups with valuation of \$1 Billion)

13+ startups with valuations over US\$100M

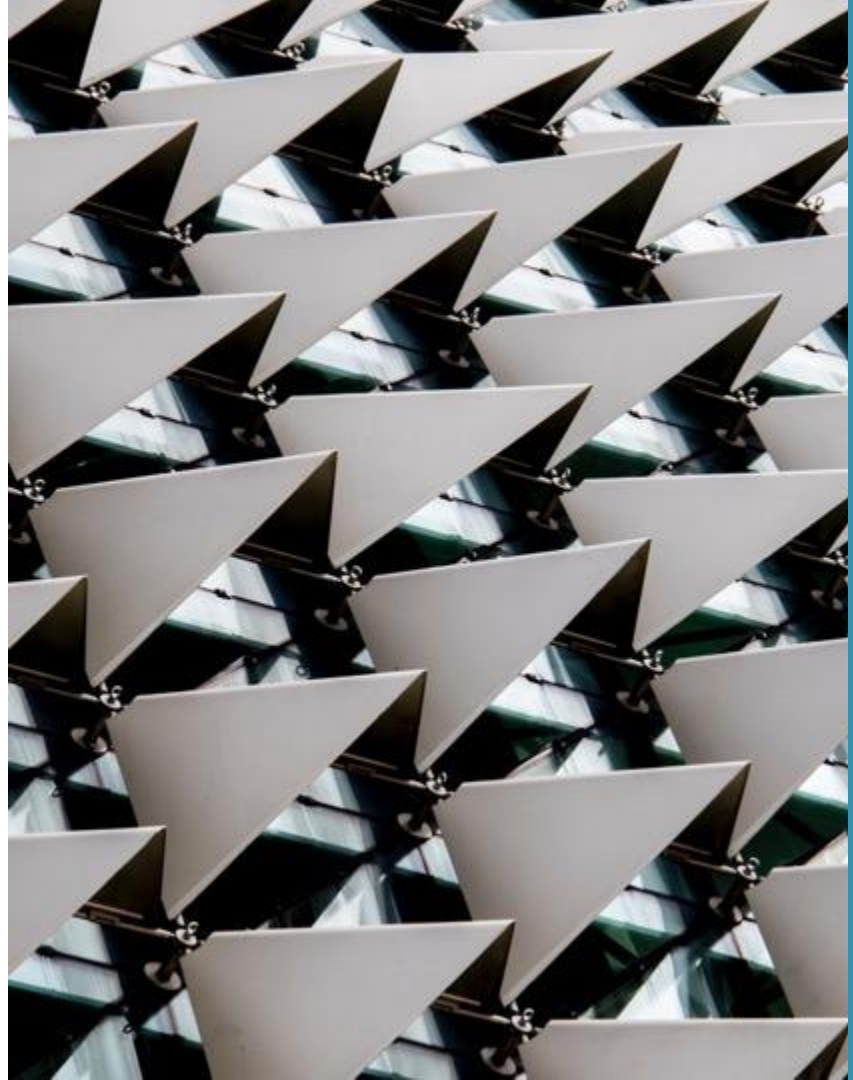
51% founders with Masters or PHD

US\$9.1B startup investments in 2018

40+ exists since 2013 amounting to US\$530M

1000+ tech related meetups with 30,000+ members

28 median age of founders (global median 40)



GOVERNMENT SUPPORTING INNOVATION AND ENTREPRENEURSHIP



IPI is an innovation catalyst that creates opportunities for enterprises to grow beyond boundaries. Strong focus on co-creation, co-development and different joint venture opportunities via technology matchmaking. Subsidiary of Enterprise Singapore.



Enterprise Singapore (ex Spring and IE Singapore) is an agency under the Ministry of Trade and Industry responsible for helping Singapore enterprises grow and building trust in Singapore products and services. They run e.g. accelerators and mentorship programmes.



SGInnovate connects entrepreneurs with industry mentors, venture capitalists and research talent in Deep Tech. Areas of focus include AI on digital health, financial services, smart energy, digital manufacturing and robotics. Matching investments.



National Research Fund (NRF) aims at transforming Singapore into a R&D hub that contributes towards a knowledge-intensive, innovative and entrepreneurial economy and wants to make Singapore a center for science and innovation. Matching investments.



A*Star - Agency for Science, Technology and Research. ETPL's commercialisation support programs such as office space, legal clinics, boot camps, workshops, networking sessions etc.) Also, founder scheme in collaboration with Startup SG.



Economic Development Board (EDB) is responsible for strategies that enhance Singapore's position as a global centre for business, innovation, and talent. Corporate focus and provides grants for Innovation Labs.



GovTech works with the public agencies to develop and deliver secure digital services and applied technology to individuals and businesses in Singapore.



The Monetary Authority of Singapore (MAS) is the central bank of Singapore which works closely with the fintech startup community.

