



Embargoed until after Min Grace Fu's speech delivery on 19 June 2024

JTC sets up Decarbonisation Living Lab at Jurong Innovation District to accelerate tenants' deployment of carbon-saving solutions

Singapore, 19 June 2024 – JTC, with the support of Enterprise Singapore (EnterpriseSG), has launched a new innovation call today to support Jurong Innovation District (JID) tenants and lessees in their decarbonisation journey.

2 Known as the Decarbonisation Living Lab @ JID Innovation Call, it will bring JID companies, private sector solution providers and public sector agencies together to co-develop, test and implement solutions to reduce the companies' carbon emissions.

3 About S\$4 million has been set aside under this innovation call to support the co-innovation of new solutions to lower JID tenants and lessees' water and energy consumption, reduce their waste output, and decrease the district's carbon footprint as a whole.

4 As an industrial landlord, Scope 3 emissions comprise the majority of JTC's total carbon emissions. These emissions arise from sources not owned or controlled by JTC but could come from its tenants and lessees. While JTC has embarked on its decarbonisation journey to reduce its carbon emissions, it is now partnering its customers to decarbonise their operations and hence, reduce the industrial estate's Scope 3 emissions.

5 The carbon footprint of manufacturing industries is large. However, it is typically more challenging for an industrial landlord to reduce Scope 3 emissions. Unlike Scope 1 and 2 emissions, it requires collaboration and coordination with upstream and downstream supply chain vendors and service providers. A deep understanding of tenants' operations and consumption patterns is also required.

6 The Decarbonisation Living Lab @ JID Innovation Call allows JTC to partner with customers who have firsthand knowledge of their sustainability challenges, thus increasing the likelihood of successful implementation, adoption and commercialisation of carbon-saving innovations at JID. Specialising in the advanced manufacturing value chain from research and development to prototyping, commercialisation and production, JID companies can contribute to and benefit from test bedding and trials of new technologies to help them decarbonise. If successful, JTC plans to replicate the model in other estates to reduce its Scope 3 emissions.

7 Conceived as Singapore's largest living lab to test and develop future ideas, the concept of the living lab is not new to JID. CleanTech Park in JID, for instance, has hosted 18 testbeds by tenants and partners, including self-driving vehicles, smart robots and assistive technologies.

Innovation Call

8 Through the innovation call, JTC will crowdsource proposals in four areas to trial and deploy carbon-saving solutions at the advanced manufacturing hub. The areas, which pose as existing roadblocks to moving the district towards Singapore's net-zero goals by 2050, include:

- i. Ideas to reduce energy consumption of tenants and/or lessees
- ii. Ideas to reduce waste generated and/or waste being transported to landfills
- iii. Ideas to reduce the amount of water used for companies' operations
- iv. Novel approaches to mitigating carbon emissions on site, including methods for energy generation and/or carbon capture, storage and utilisation

9 JID companies can participate in the innovation call by contributing a problem statement for solution providers to respond to. They can also work with a solution provider to solve a particular challenge in these areas.

10 With an objective of replicating and scaling up the deployment of the solutions, novel proposals with a high technology-readiness level for eventual adoption and deployment will be awarded. Other criteria include commercial viability and benefits to Singapore's economy.

11 The proposals will be evaluated by a multi-agency panel, including JTC and EnterpriseSG. JTC plans to award the projects by early 2025, and begin the testbeds thereafter.

12 Mr John Kiong, Acting Director, Sustainability Department, JTC, said. "From inception, JID embodies the Living Lab ethos where pilots and demo projects using its buildings and infrastructure as a testing platform are readily welcomed. As the estate strives towards operational net zero, the Living Lab programme continues with a greater emphasis on sustainability-related innovation. With the innovation call, JID will be the district where innovative ideas can be tested for proof-of-concept, deployed at the building or district scale, before reaching commercialisation scale. Together with our ecosystem, we hope to engender meaningful projects that can contribute to the overarching sustainability vision for JID, in support of Singapore's net zero ambition."

13 Ms Magdalene Loh, Director, Urban Systems & Solutions, EnterpriseSG, said, "As sustainable development gains momentum globally, there is an increasing need to integrate sustainability into business operations to build a competitive edge, while reducing impact to the environment. With the new Decarbonisation Living Lab @ JID Innovation Call, innovative startups and SMEs can collaborate with corporates in JID to develop and test novel carbon-reduction technologies. This not only contributes to the decarbonisation goal of the district, but also provides startups and SMEs with opportunities to develop market-ready solutions and establish early track records that can help them access green economy opportunities beyond Singapore."

14 JID's vibrant ecosystem of enterprises in smart city and urban solutions includes Surbana Jurong, whose campus serves as an incubator for real-world urban solutions. Mr Praveen Chandrashekar, Director, Sustainability & Resilience, Asia, Surbana Jurong, said: "Participating in the innovation call aligns with Surbana Jurong Group's vision for its living lab campus to catalyse practical smart and sustainable solutions that seed innovations to help our clients achieve their net zero goals." SJ Campus is a GM Platinum SLE and Singapore's first WELL Core Certified™ at Platinum level building.

15 The Energy Research Institute at NTU (ERI@N), a centre-of-excellence for advanced research, development and demonstration of innovative energy solutions, is a JID tenant and key ecosystem partner. Dr Faizal Zulkefli, Programme Director, Sustainable Built Environment, ERI@N, said, "As a leading research institute that focuses on translational research, we have collaborated with JTC on several successful testbed projects which have been implemented across various locations around Singapore. With the new Decarbonisation Living Lab @ JID Innovation Call, we are excited to continue our partnership with JTC to develop and deploy innovative sustainability solutions that will benefit society, in line with the NTU Sustainability Manifesto."

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About JTC

Since its inception in 1968, JTC has played a strategic role in ensuring Singapore stays innovative and dynamic amid global manufacturing trends.

As a government agency under Singapore's Ministry of Trade and Industry, JTC is paving the way forward for Singapore's industrial landscape with green and smart estate masterplans such as

one-north, Seletar Aerospace Park, Jurong Innovation District, and Punggol Digital District. Our estates attract new investment and foster collaborative ecosystems that strengthen Singapore's position as an advanced manufacturing hub. We also drive innovation in the Built Environment sector by piloting new construction technologies.

For more information on JTC, visit www.jtc.gov.sg.

Annex:

JID's sustainability focus



Artist's impression of the sky corridor at Jurong Innovation District (Credit: JTC)

The Living Lab augments JTC's efforts to make sustainability a key focus in JID, cutting across the entire building and infrastructure value chain from planning and design, to construction and operations and maintenance.

As a car-lite district, JID will have an 11-kilometre sky corridor dedicated to pedestrians, cyclists and potentially autonomous shuttles in the future, connecting the entire district and providing seamless links to transport and activity nodes.

The district will also be home to Singapore's first dedicated underground District Logistics Network, which is being developed to increase the efficiency of goods movement while freeing up spaces above ground for business and community use.

Set amidst a rich tapestry of lush greenery and biodiversity, JID will feature up to 40% green coverage with more than 15 ha of park space at the Jurong Eco-Garden and upcoming Bulim Park, which will also feature ponds to capture rainwater.

The district has also aimed to reduce embodied carbon for its buildings. For instance, through the use of steel construction technologies and processes, CleanTech Three achieved more than 30% reduction in embodied carbon from BCA baseline level.

The district incorporates ventilation-efficient features that utilise renewable energy sources like solar energy. CleanTech Three for instance has integrated the natural environment and

biodiversity in the surrounding Jalan Bahar, with its buildings designed to harness natural wind to cut down energy consumption from air-conditioning and mechanical ventilation.

The 600-ha district also houses sustainable and energy efficient buildings such as the Green Mark Platinum Bulim Square, CleanTech One, Two and Three, and Launchpad @ JID, as well as the Green Mark Platinum Super Low Energy Surbana Jurong Campus.