



SUSTAINABLE LANDSCAPE ARCHITECTURE & SMART CITY IN MARINE ECONOMY

EXPERIENCES FROM SINGAPORE

SDMD 2025

CONTENT

1. Introduction
2. Smart & Sustainable City
 - What
 - Who
 - How
3. Case Study





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Design & Build | Sustainability | MEP Engineering | Research & Insights

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Services | Integrated Solutions

Masterplan & Urban Planning

Visionary, scalable city plans

Landscape Design

Nature-led outdoor spaces

Interior Fit-out

Quality interior finishes

Architecture

Iconic, lasting structures

Interior Design

Beautiful, functional interiors

Spatial Experience

Immersive, engaging spaces

Illumination Design

Creative, dynamic lighting

Sustainability Design

Eco-conscious design strategies

MEP Engineering

Efficient MEP solutions

Illumination Engineering

Realised lighting concepts



Expertise | Diverse Typologies



WHAT IS SMART AND SUSTAINABLE?



A



B

Which one?



A



B

Which one?



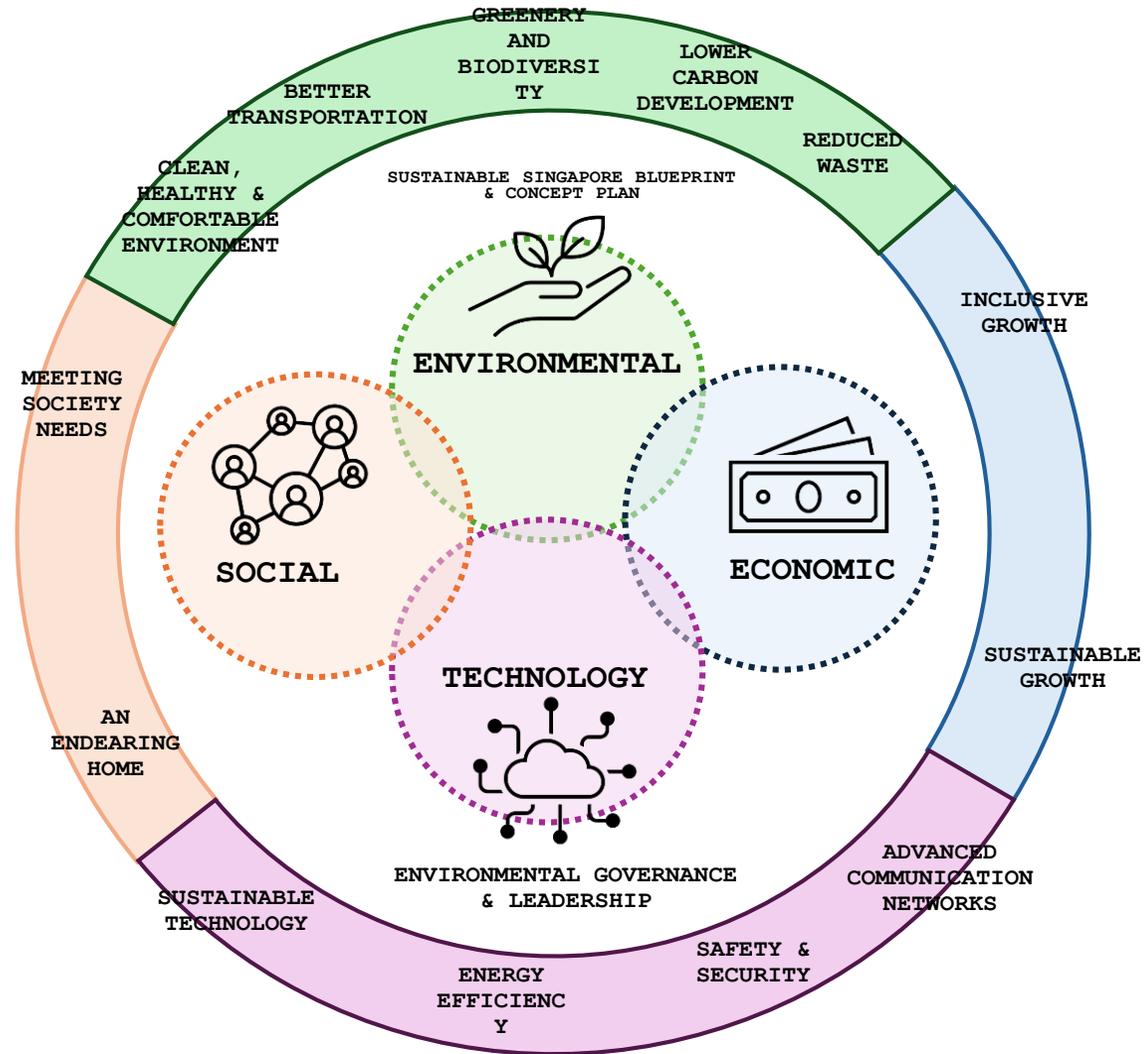
It is for human.
Make design human.

WHAT IS SMART AND SUSTAINABLE CITY?

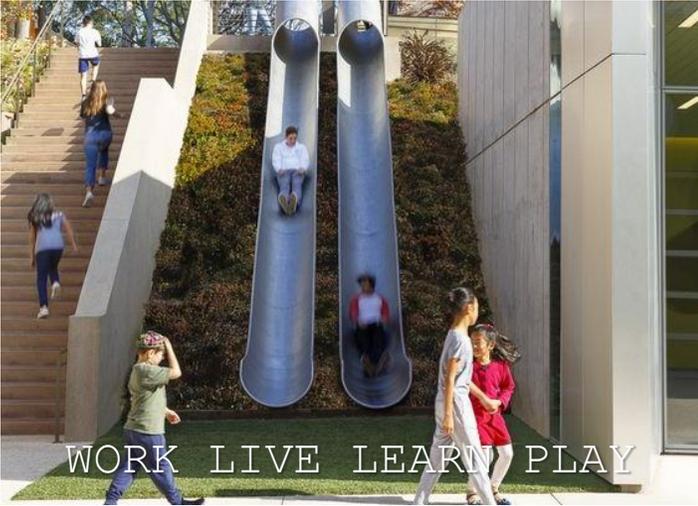
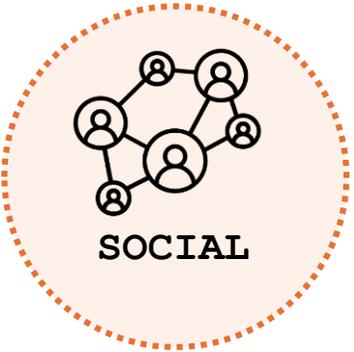


- A smart and sustainable masterplan is a comprehensive framework for urban development that integrates innovative technologies and sustainable practices to enhance the quality of life in a community while minimizing environmental impact. Here are the key components:
 1. **Smart Technologies:** Incorporates digital tools and data analytics to improve infrastructure, transportation, energy management, and public services. This might include smart grids, sensors for traffic management, and data-driven urban planning.
 2. **Sustainability:** Focuses on eco-friendly practices, such as renewable energy use, green building standards, sustainable transportation options, and waste reduction strategies. The goal is to create a resilient environment that can adapt to future challenges.
 3. **Community Engagement:** Involves local stakeholders in the planning process to ensure that the masterplan meets the needs and aspirations of the community. This may include public consultations and collaborative decision-making.
 4. **Integration of Nature:** Emphasizes the importance of green spaces, biodiversity, and urban ecology in city planning. This can enhance well-being and mitigate the urban heat island effect.
 5. **Resilience:** Plans for climate change adaptation and disaster risk reduction, ensuring that infrastructure and communities can withstand and recover from environmental shocks.
- Overall, a smart and sustainable masterplan aims to create livable, efficient, and environmentally friendly urban areas that meet current needs without compromising the ability of future generations to thrive.

SMART SUSTAINABLE DEVELOPMENT FRAMEWORK



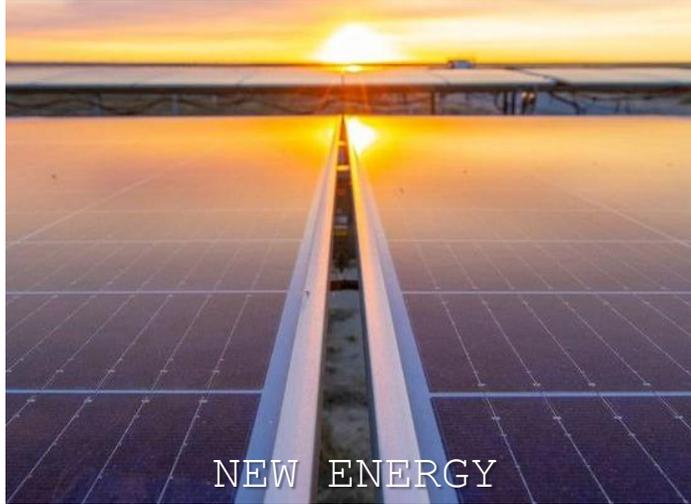
SMART SUSTAINABLE DEVELOPMENT FRAMEWORK



SMART SUSTAINABLE DEVELOPMENT FRAMEWORK



SMART SUSTAINABLE DEVELOPMENT FRAMEWORK



SMART SUSTAINABLE DEVELOPMENT FRAMEWORK





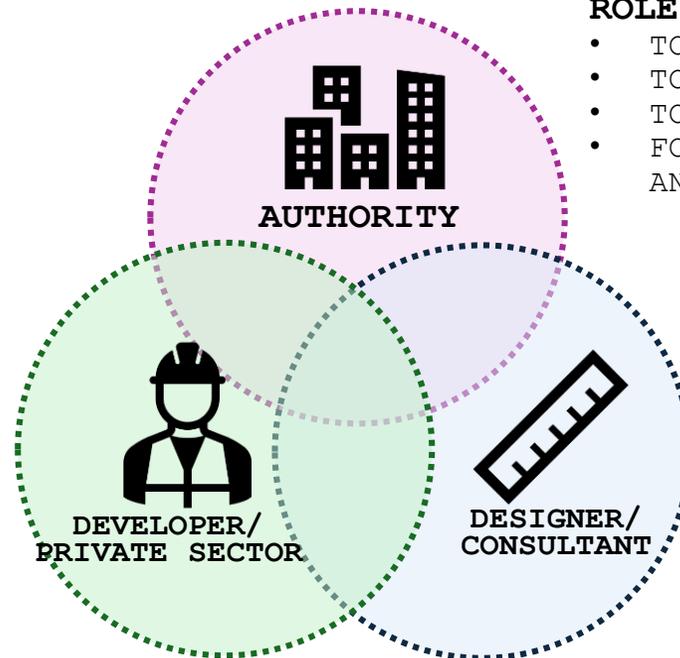
- Creating a smart and sustainable city is a collaborative effort that involves multiple stakeholders, including:

- 1. Government Authorities:** Local, regional, and national governments play a crucial role in setting policies, regulations, and funding initiatives that promote smart and sustainable development.
- 2. Urban Planners and Designers:** These professionals develop the masterplans, ensuring they incorporate sustainability principles and smart technologies.
- 3. Technology Providers:** Companies specializing in smart technologies, such as IoT, data analytics, and renewable energy solutions, provide the tools necessary for implementation.
- 4. Academics and Researchers:** They provide valuable research, data analysis, and innovative solutions that can inform sustainable practices.
- 5. Private Sector:** Businesses can invest in sustainable practices and technologies, driving innovation and supporting local economies.

WORK HAND IN HAND TO PROVIDE GOOD BUILT ENVIRONMENT

THE ACCELERATOR

- TO ALIGN WITH THE GOVERNMENT'S VISION
- TO BE OPEN TO EMBRACE NEW TECHNOLOGY & ECONOMIC MODEL
- TO DRIVE INNOVATION & LOCAL ECONOMIES
- THE "\$ SIGN"



THE DRIVER (MOST CRUCIAL ROLE)

- TO HAVE GREAT VISION
- TO SET POLICIES
- TO PROVIDE FUNDING INCENTIVE
- FOR THE GROWTH OF THE COUNTRY AND PEOPLE

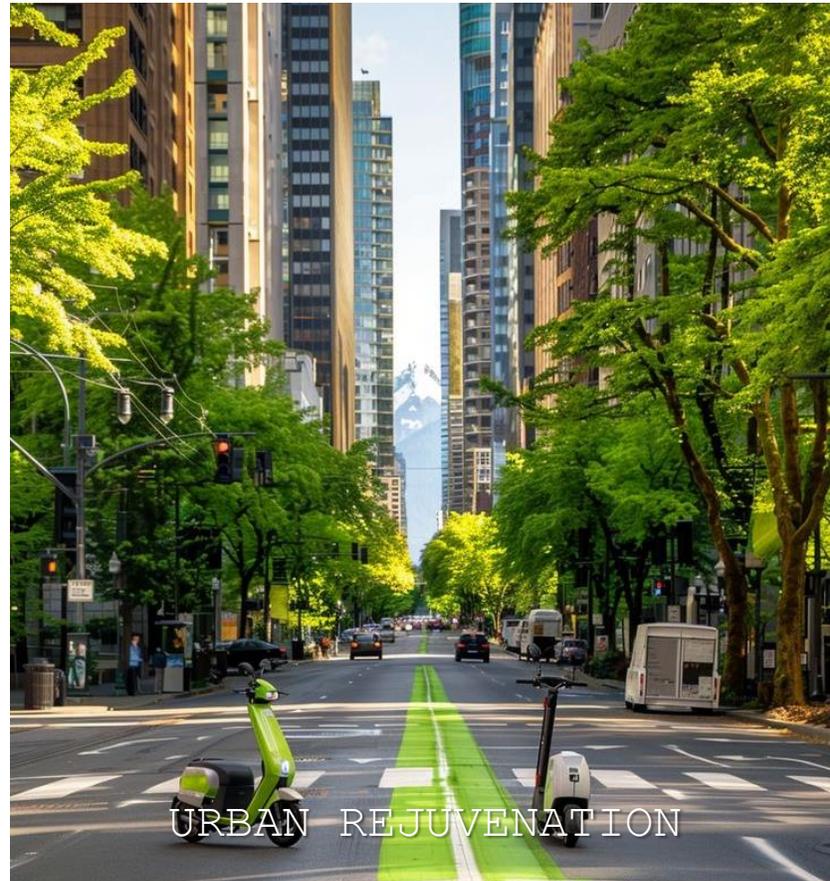
THE "ORCHESTRA CONDUCTOR"

- TO EQUIP WITH LATEST KNOWLEDGE AND TECHNOLOGY
- TO COLLABORATE WITH VARIOUS AGENCIES & CONSULTANTS
- TO TAKE A MORE PROACTIVE ROLE: RESEARCH, TRY & ERROR

Make Design Human.



ADAPTIVE REUSE



URBAN REJUVENATION



NEW MASTERPLAN



SENTOSA SINGAPORE

Sentosa is a popular resort island located just off the southern coast of Singapore. Known for its **beaches, luxury hotels, theme parks, and entertainment attractions**, it is a major destination for both tourists and locals seeking **leisure and recreation**. The island spans approximately **500 hectares (5 square kilometers)** and is easily accessible by road, cable car, monorail, or pedestrian boardwalk. Originally a British military base, Sentosa has been transformed into a vibrant hub offering everything from nature trails and golf courses to Universal Studios Singapore and the S.E.A. Aquarium.

Merlion



4D Adventureland



Mega Adventure Park



ENTERTAINMENT



Universal Studio



S.E.A Aquarium



Songs of the Sea

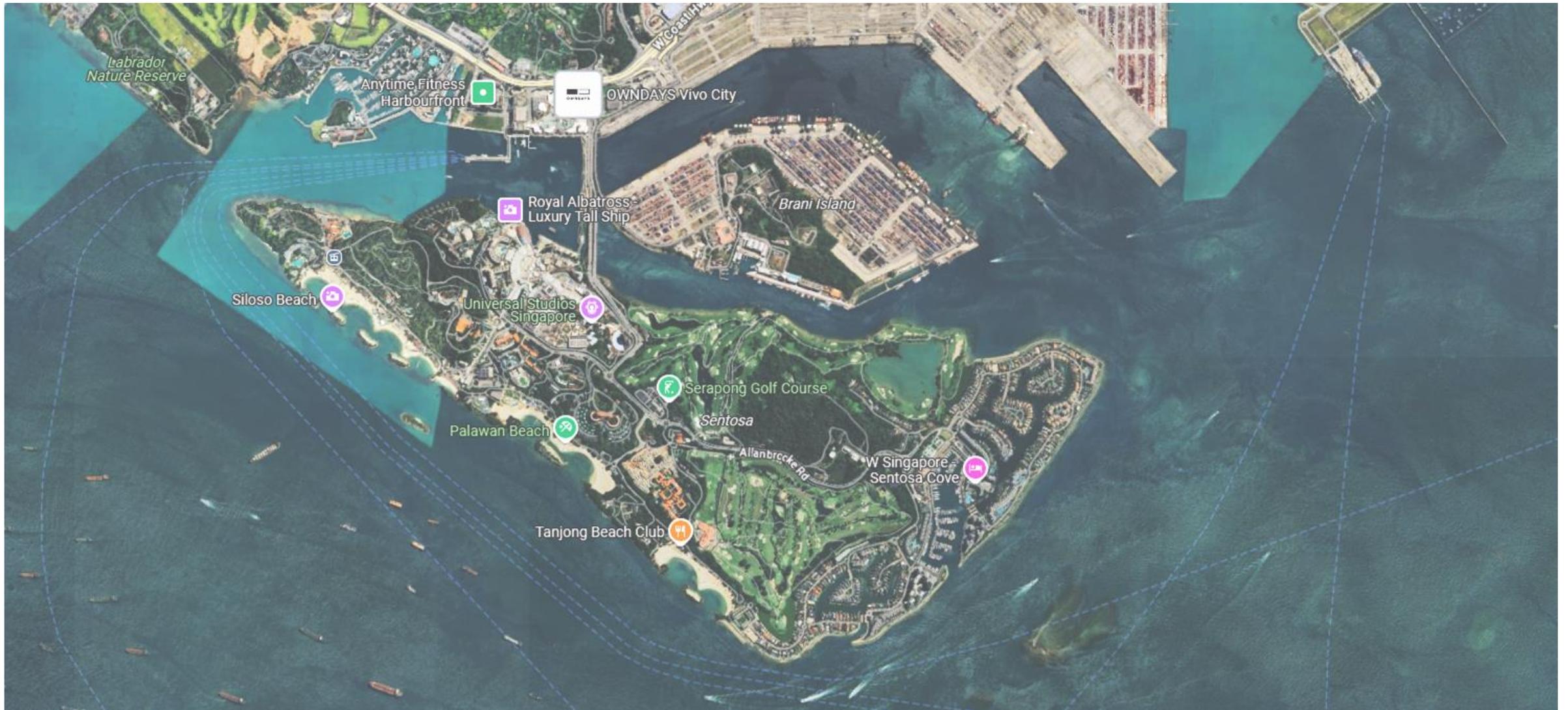


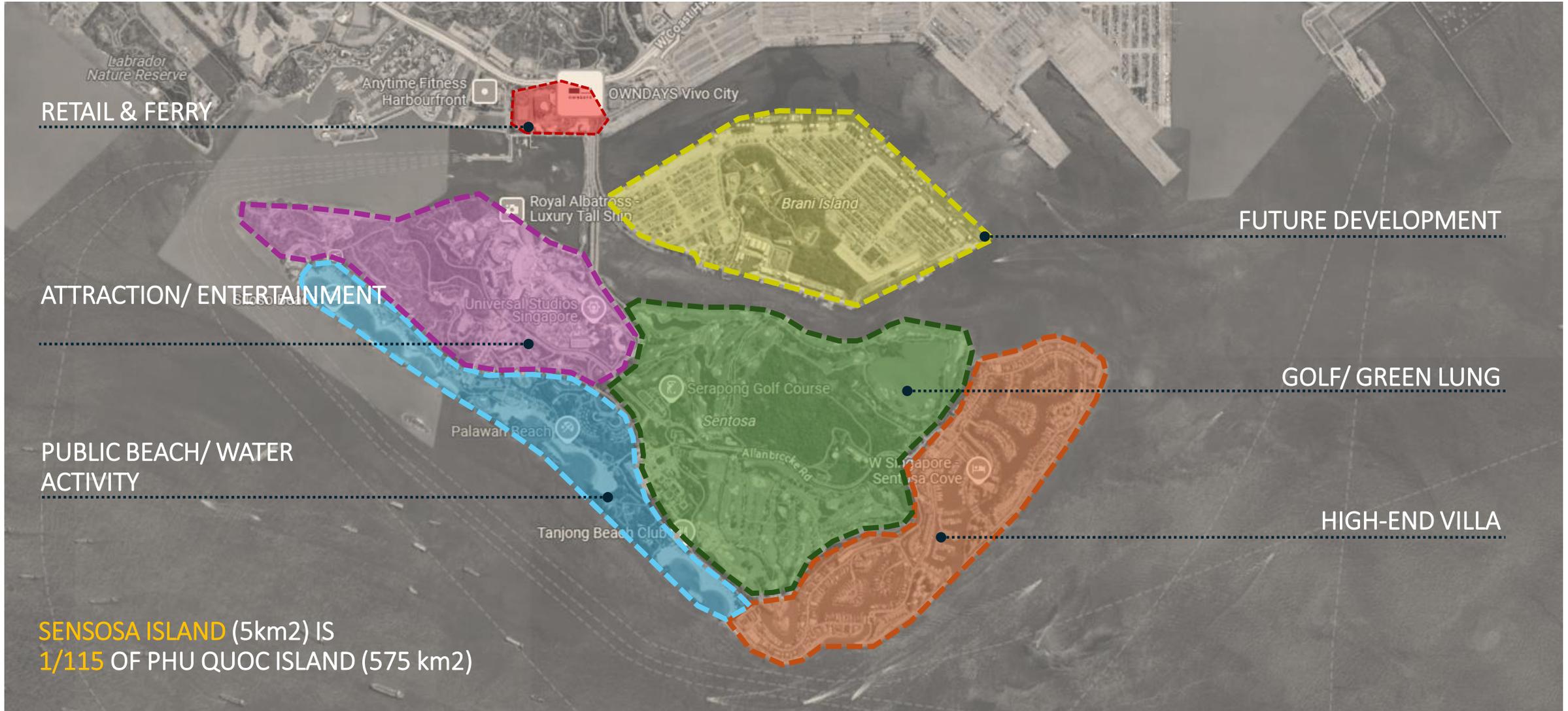
BEACH TIME



PRIVATE RESIDENTIAL









84 HA INTEGRATED LIFESTYLE AND SPORT PRECINCT
TO CREATE A 24/7 URBAN LIFESTYLE PRECINCT BLENDING
SPORTS, HERITAGE, LEISURE AND COMMUNITY.

KALLANG ALIVE

SPORT SINGAPORE

Kallang Alive is a major sports and lifestyle redevelopment masterplan in Singapore, led by Sport Singapore. It focuses on transforming the Kallang area into a vibrant hub for sports, entertainment, and community activity, while leveraging its central location and heritage.

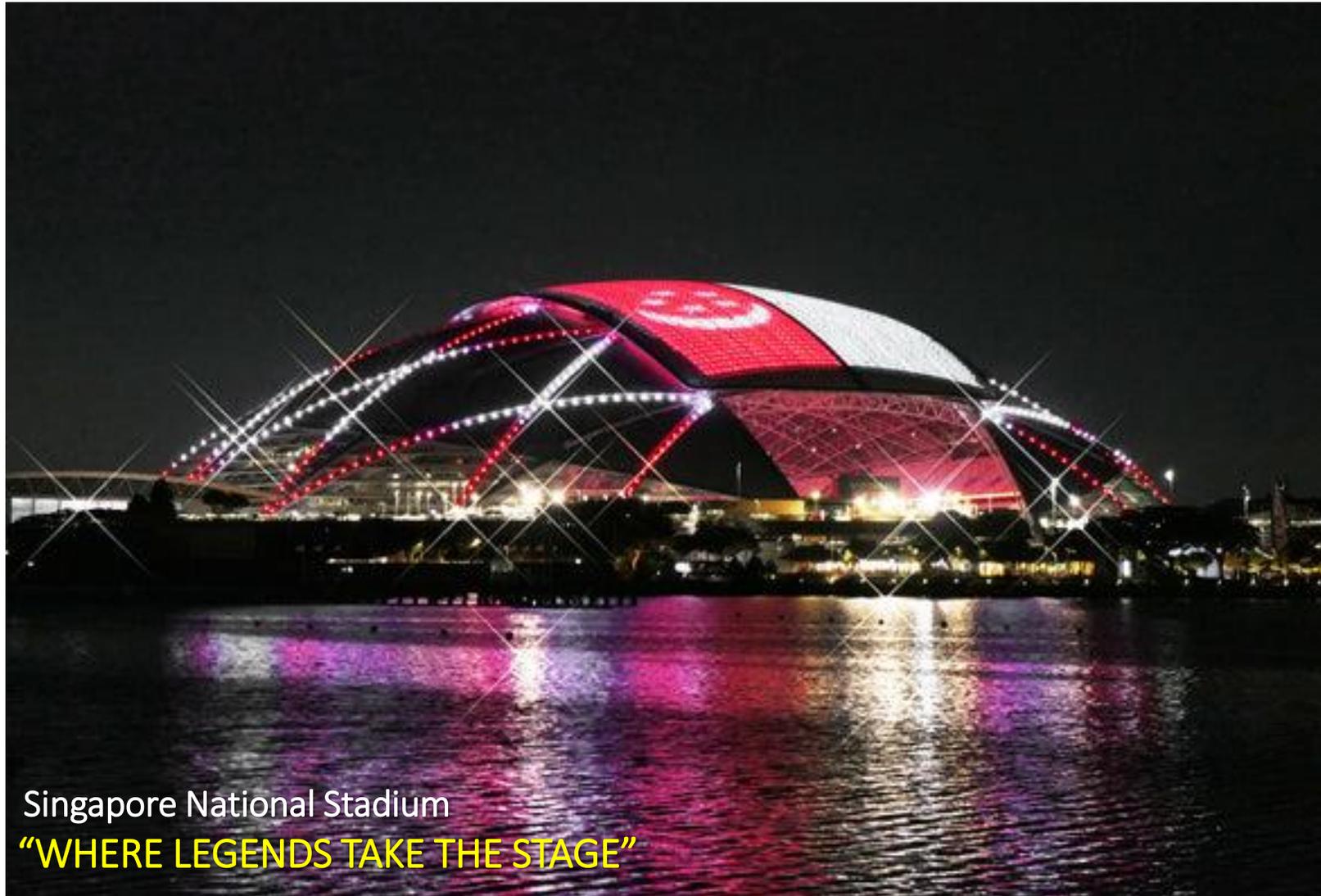
WHY?

REDEVELOP

- **Aging Infrastructure:** Modernize and replace old infra to meet current international standards & attract global events.
- **Lack Of A Major Events Hub:** Create a central venue for international sports and entertainment events.
- **Changing lifestyle and recreation needs:** Provide spaces for sports, wellness, and family events.
- **Limited Sports Tourism Attractions:** Boost tourism and support economic growth.
- **Low Community Sports Engagement:** Encourage participation and support youth talent development.







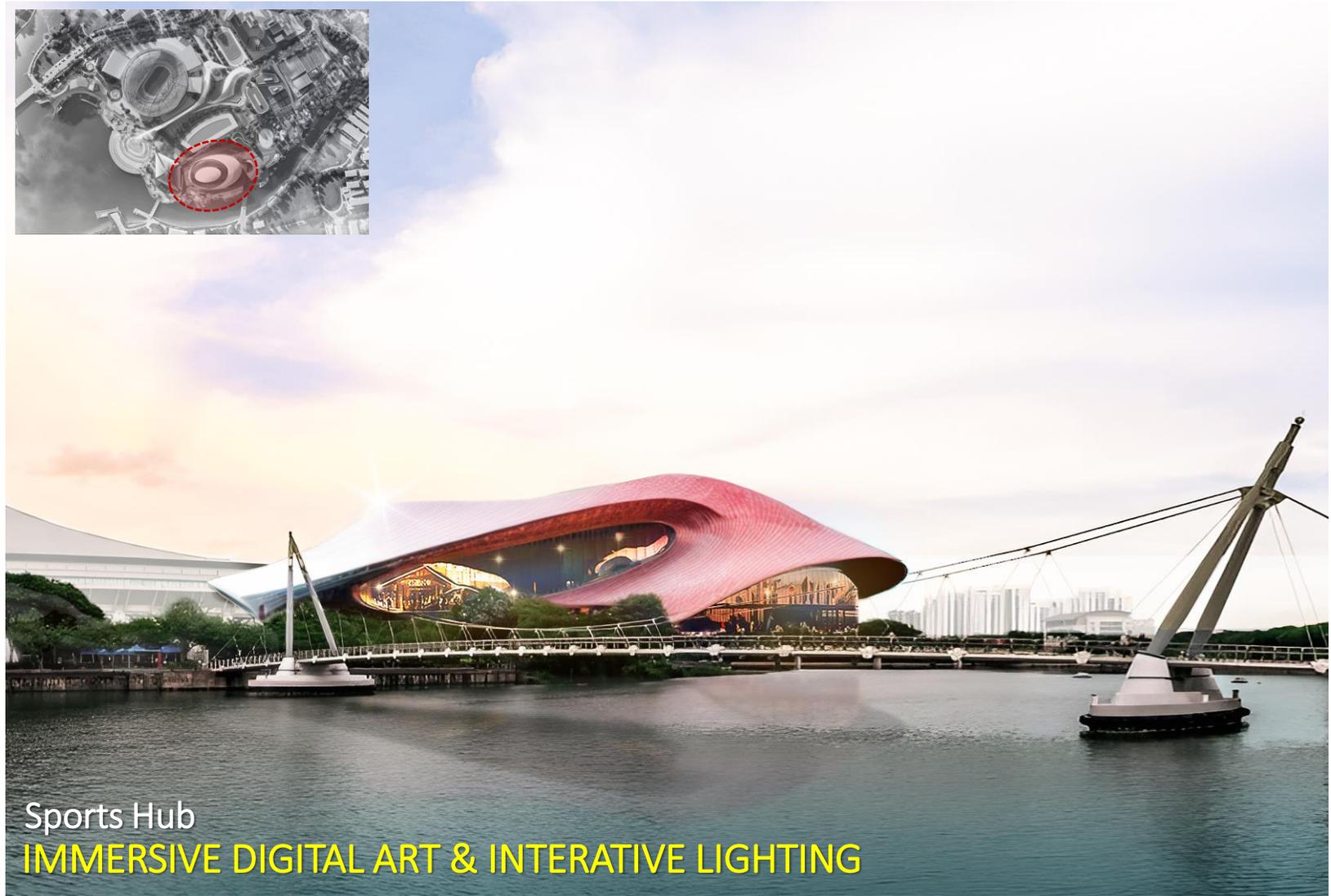




CENTRAL SPINE & COVERED BOULEVARD

A WALKABLE WORLD OF PLAY, SHOP, AND DINE.







Community & Commercial Waterfront

A SOCIAL PROMENADE WHERE LIFESTYLE MEETS LEISURE IN A SPACE MADE FOR ALL



SMART & SUSTAINABLE

Kallang Alive is envisioned as a forward-looking sports and lifestyle precinct that leverages technology and sustainability to enhance user experience, reduce environmental impact, and support Singapore's long-term urban goals.

CLIMATE-CONTROLLED WALKING AND CYCLING LOOPS

This climate-controlled loop is a perfect example of Kallang Alive's blend of heritage-inspired design, user comfort, smart engineering, and biophilic connectivity



FUTURE-READY SPACES FOR AN ACTIVE NATION





SINGAPORE MASTERPLAN

A district rich in history, exemplifies the harmonious blend of industrial prowess and environmental splendour. Amidst the pressing challenges of rising sea levels, the district's future hinges on an integrated Green & Blue Vision, where traditional "hard engineering" melds with innovative "soft engineering" to secure a prosperous and resilient future.

WHY?

REPLANNING

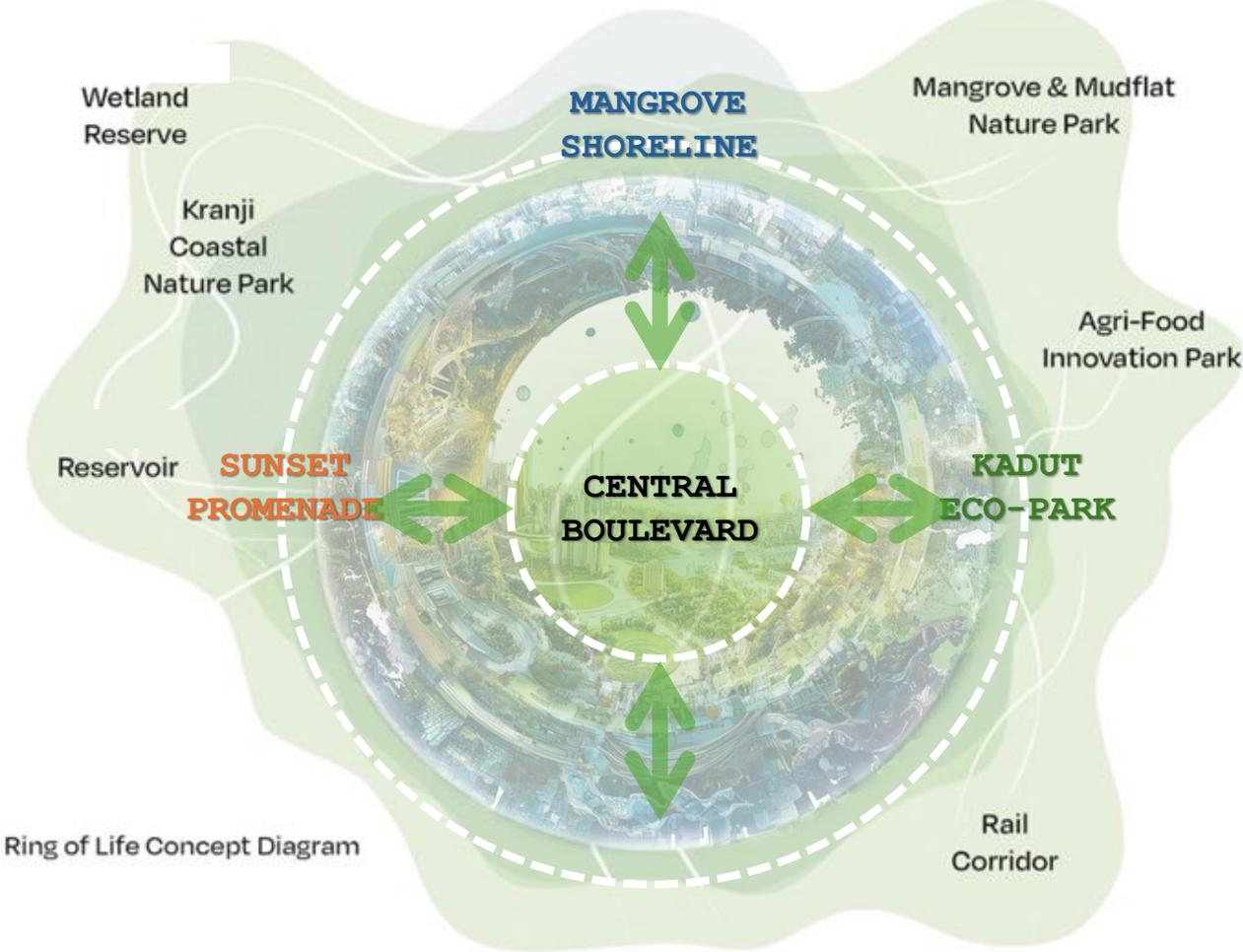
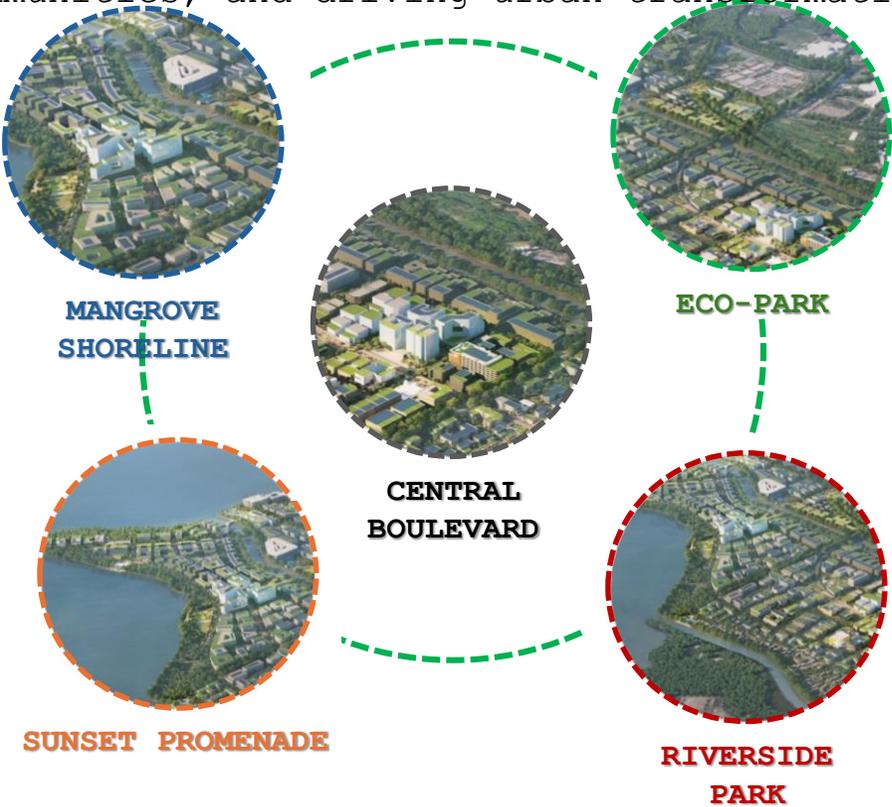
- **Aging Industries:** To modernize and stay competitive
- **Inefficient Land Use :** Limited space for growth and innovation.
- **Sustainability Needs:** Support green economy and waste management.
- **Food Resilience Goals:** Enable local, high-tech agriculture.
- **Poor Connectivity:** Barrier to attracting workers and businesses.
- **Fragmented Planning:** Missed opportunity for synergy and integration.



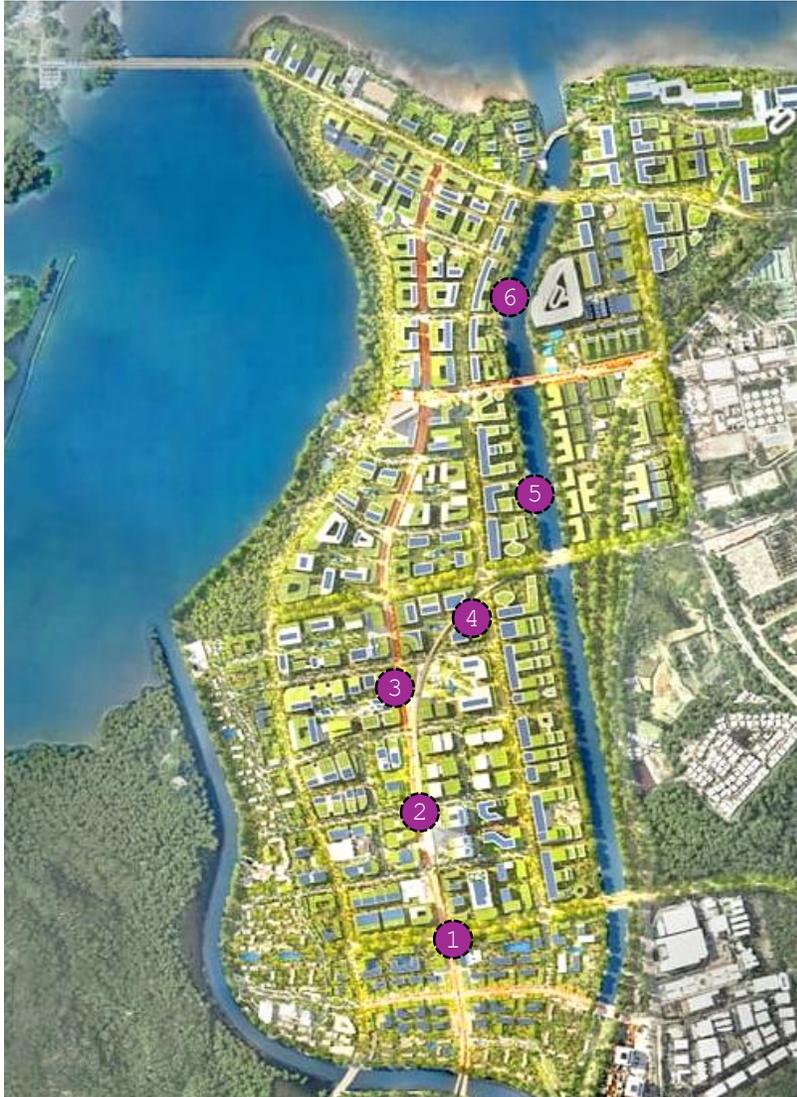
Creating Values
From Existing Nature
Through Programmes & Function

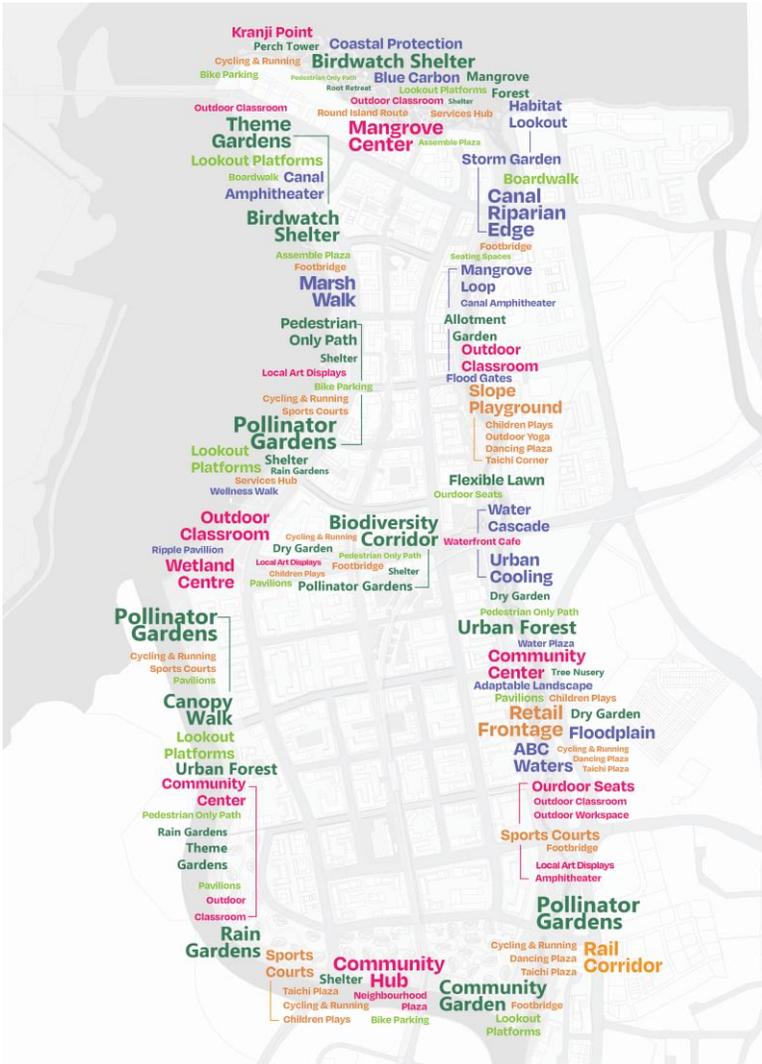
RING OF LIFE

Crafting adaptable landscapes, leveraging innovative hybrid nature-based solutions, celebrating nature's beauty, empowering diverse communities, and driving urban transformation.



Ring of Life Concept Diagram

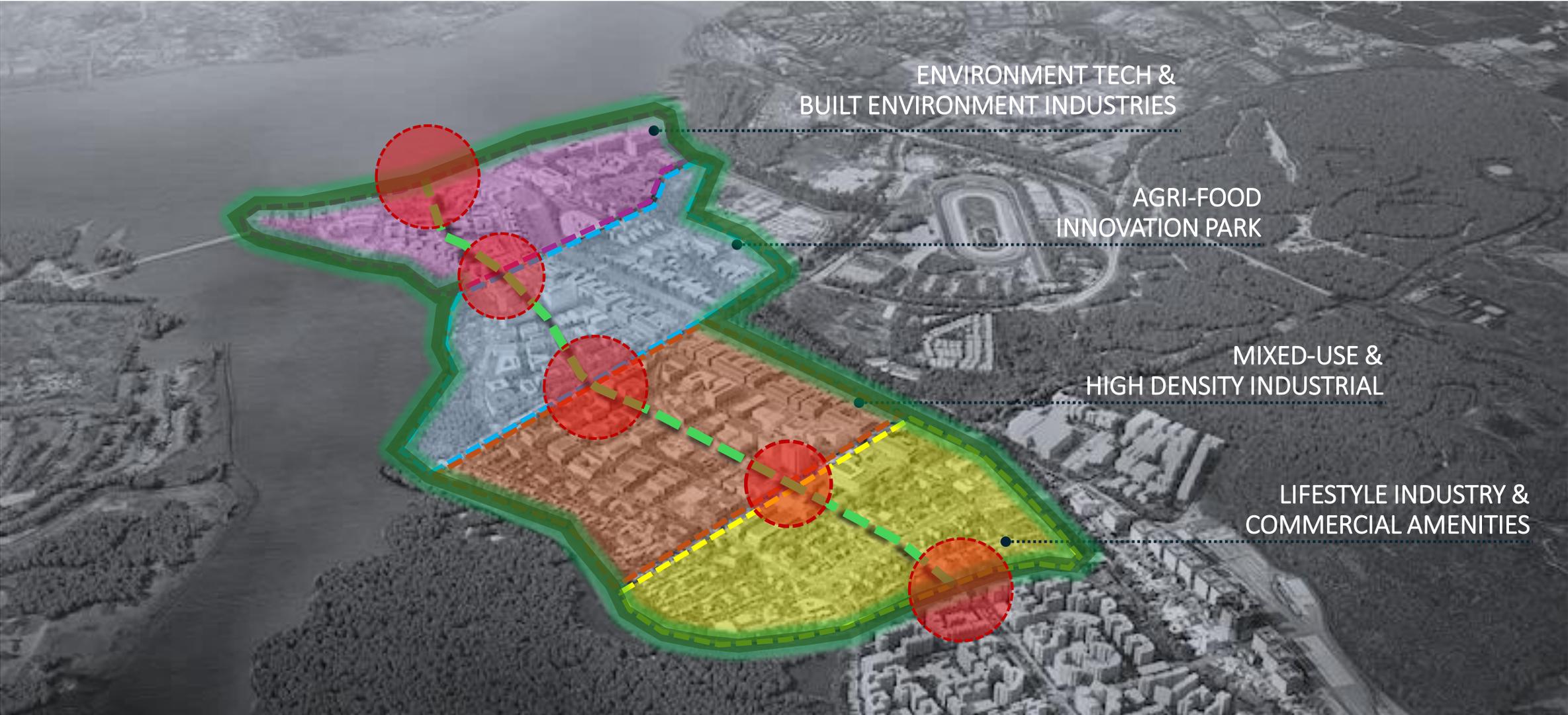




What does Ring Of Life offer ?

Spanning 434 hectares, the SKED encompasses:

- 106 ha** of **Green Space**
- 30 ha** of **Mangrove Forest**
- 8.5 ha** of **Urban Forest**
- 21 ha** of **Plaza Street**
- 24.5 km** of **Greenway**, featuring:
 - 13 km of **Cycling Path**
 - 4 km of **Heritage Walk**
 - 7.5km of **Urban Forest Trail**
- 3.3 km** of active pedestrianized **Central Boulevard**
- 3.9 km of existing Sungei Pang Sua will be partially transformed into a **2.9 km Freshwater Segment**
- Over **41.5 ha** of **Floodplain** created at Sungei Kadut Eco Park enhancing climate resilience
- 313.7 ha** of **New Water Catchment**
- 1.6 km** of **Active Park Frontage** at Sungei Kadut Eco Park
- 12.3 km** of **Interconnected Biodiversity Corridors**



ENVIRONMENT TECH &
BUILT ENVIRONMENT INDUSTRIES

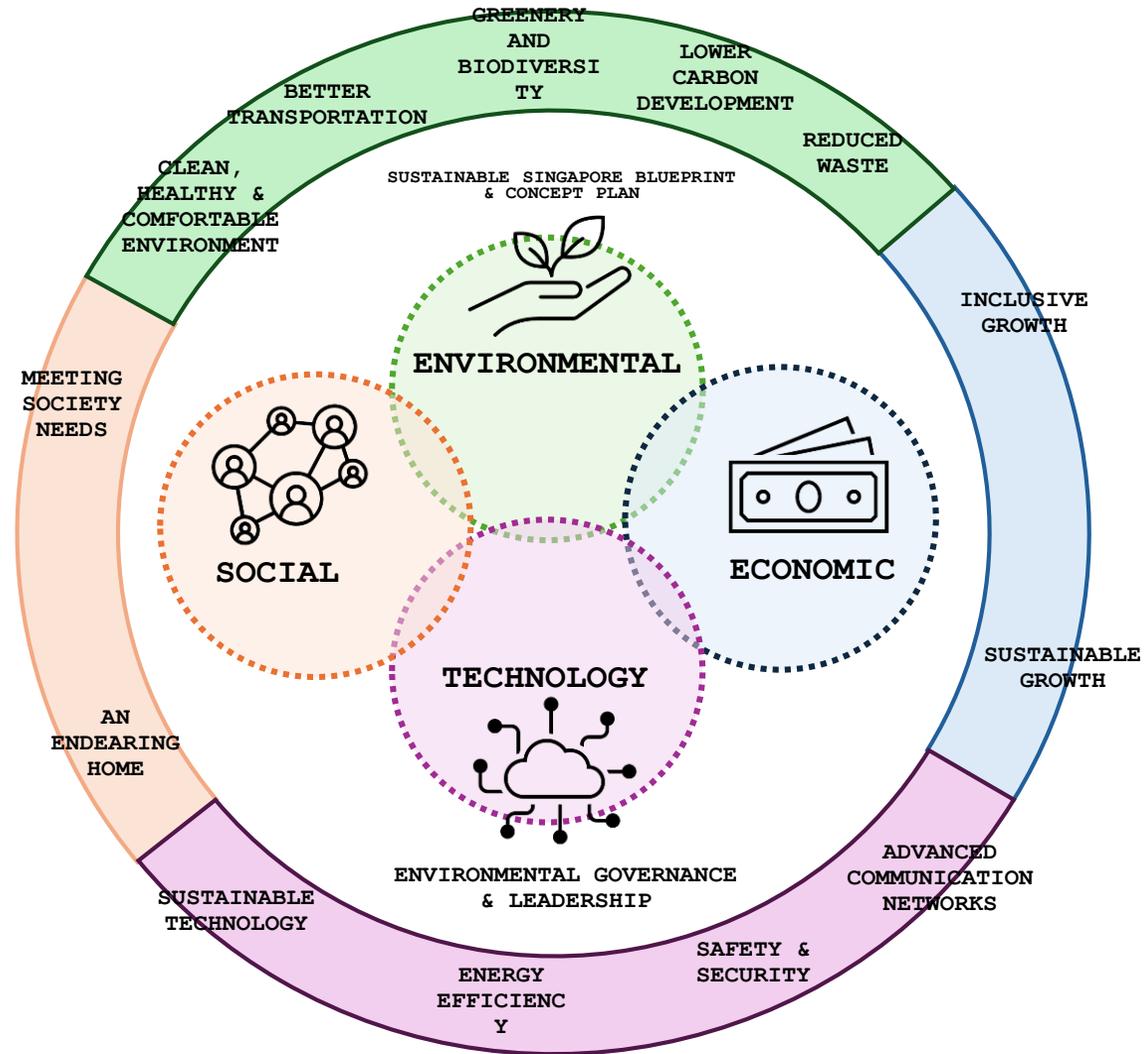
AGRI-FOOD
INNOVATION PARK

MIXED-USE &
HIGH DENSITY INDUSTRIAL

LIFESTYLE INDUSTRY &
COMMERCIAL AMENITIES



SMART SUSTAINABLE DEVELOPMENT FRAMEWORK

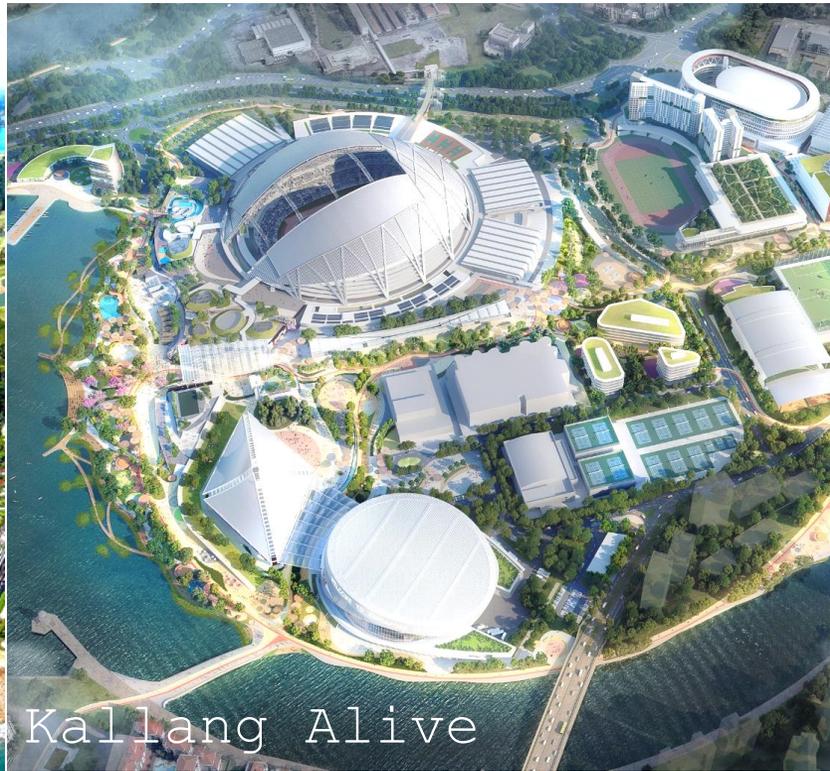




It is for human.
Make design human.



Sentosa Island



Kallang Alive



Singapore Masterplan

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THANK YOU

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