SARAWAK DIGITAL

SDEC Digitalising Sarawak

DIGITALISATION AND ENVIRONMENTAL SUSTAINABILITY

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BORNEO CONVENTION CENTER KUCHING

DIGITALISATION

"**Digitalisation** is about harnessing the power of **digital technologies** to transform **traditional** methods, systems, and processes into more efficient, flexible, and adaptable **digital solutions** that can support the evolving needs of individuals, businesses, and society as a whole"

ENVIRONMENTAL SUSTAINABILITY

"**Environmental Sustainability** refers to the collective efforts and practices aimed at **preserving and protecting** the Earth's **natural resources**, ecosystems, and biodiversity, while promoting the well-being and quality of life for both present and future generations."

WHY DIGITALISATION IS IMPORTANT IN ENVIRONMENTAL SUSTAINABILITY?


SUSTAINABLE DEVELOPMENT GOALS
1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS

UNGC 10 PRINCIPLES

Human Rights

- Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and
- Principle 2: make sure that they are not complicit in human rights abuses.

Labour

- Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- Principle 4: the elimination of all forms of forced and compulsory labour;
- Principle 5: the effective abolition of child labour; and
- Principle 6: the elimination of discrimination in respect of employment and occupation.

Environment

- Principle 7: Businesses should support a precautionary approach to environmental challenges;
- Principle 8: undertake initiatives to promote greater environmental responsibility; and
- Principle 9: encourage the development and diffusion of environmentally friendly technologies.

Digitalization

Anti-Corruption

- Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

DIGITALISATION GOAL IN ENVIRONMENTAL SUSTAINABILITY

Digitalization plays a crucial role in promoting a sustainable environment by enabling more efficient and effective **resource management** & reducing **waste and emissions**.

Here are some key ways in which digitalization contributes to environmental sustainability:

Resource Efficiency

Waste Reduction & Recycling

Environmental Monitoring & Management

Remote Work

Behavioural Change & Awareness

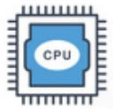
SMART ENVIRONMENTAL SOLUTIONS

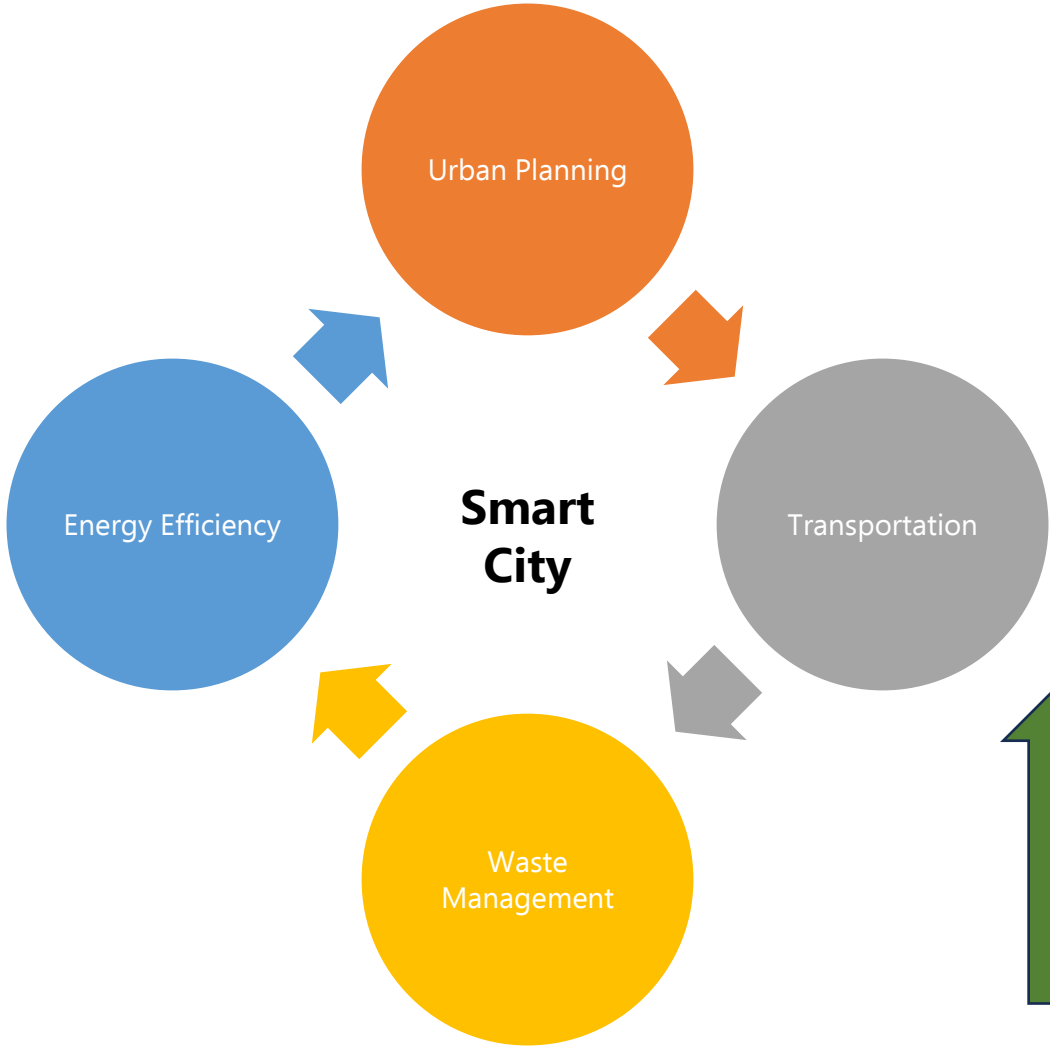
SMART CITIES

Data Collection

Data Analytics

Automation



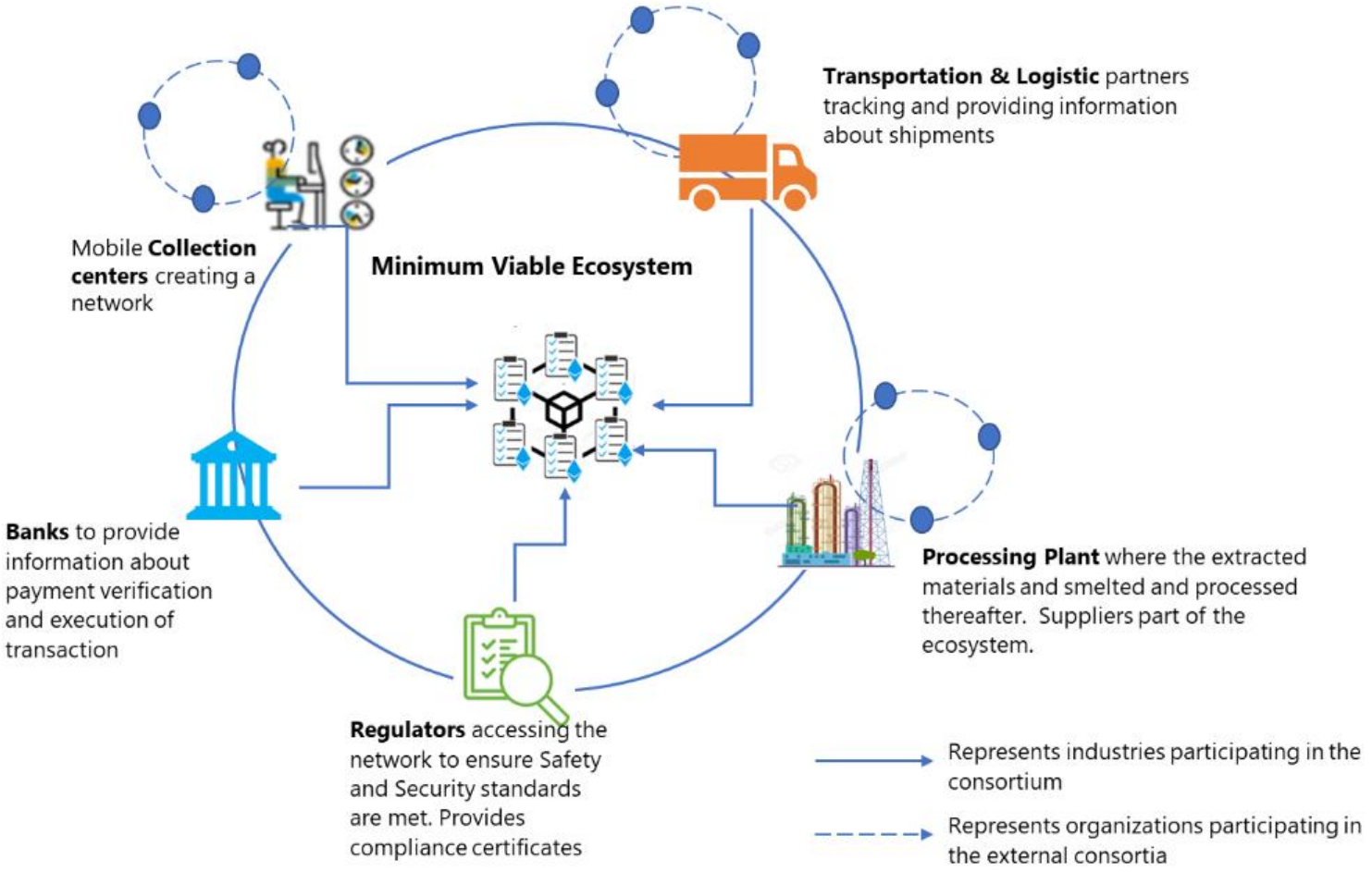


Resource Allocatio

Quality of Life

Reduce Pollution

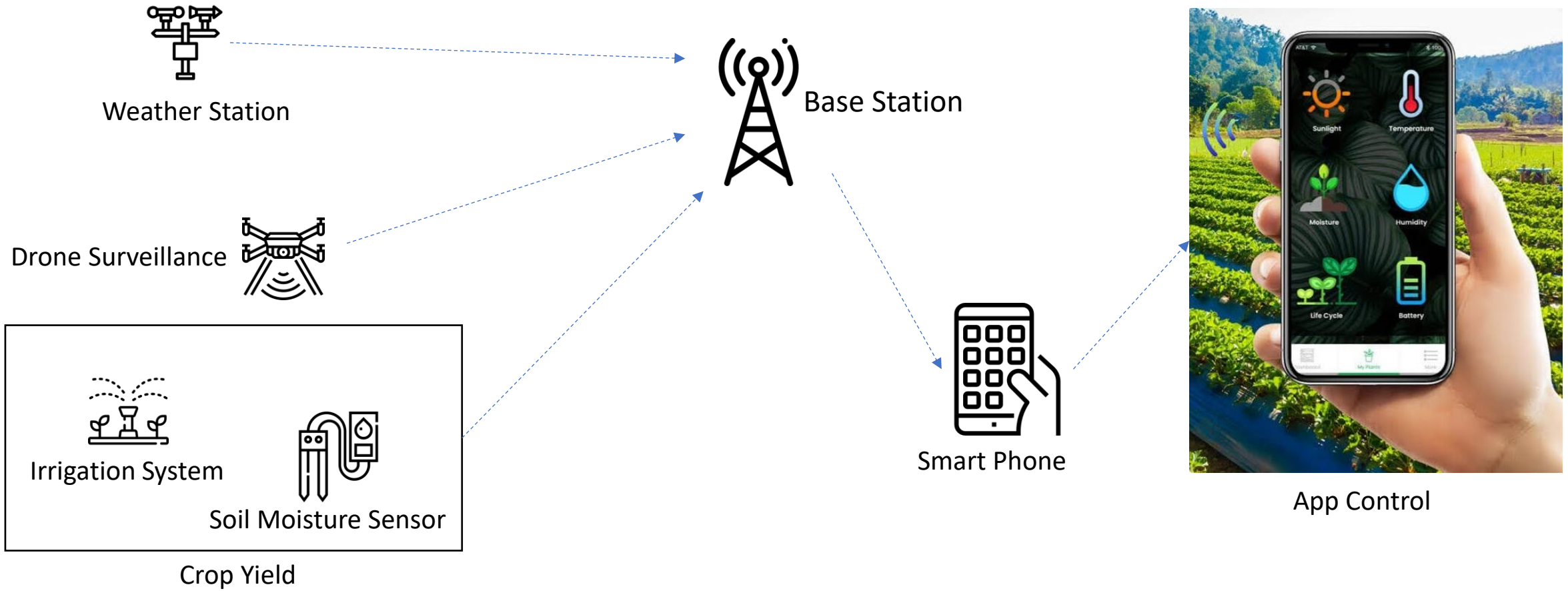
Use case: Tokyo Olympic 2021 medal creations from recycled material



- **Blockchain** technology offers opportunities for **visibility**, through **transparency** and **traceability** capabilities across the supply chain.
- It offers the scope of **integration** with new technologies, including IoT sensors, drones, autonomous vehicles, automated fulfilment centers. This integration provides a synergistic benefit for the entire ecosystem.

PRECISION FARMING

Precision Agriculture - Use of sensors, drones, and data analytics to optimize farming practices, improve crop yields, and minimize resource usage



SUSTAINABLE TRANSPORTATION

EVs

Improve Traffic Flow

Enhance Efficiency

Reduce Greenhouse Gas emission

Reduce Pollution

Ride-sharing platform

Hydrogen ART

Hydrogen Bus

Advance Air Mobility

NEGATIVE IMPACT OF DIGITALISATION

NEGATIVE IMPACT OF DIGITALISATION ON ENVIRONMENT

The Negative

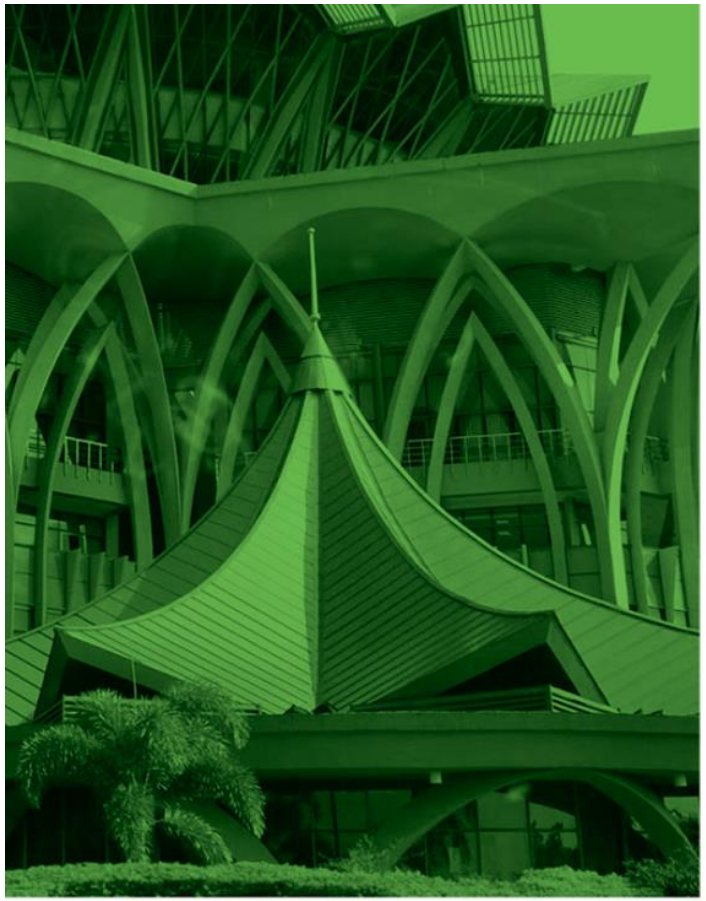
1. **E-waste:** The rapid advancement of digital technologies leads to shorter product life cycles, contributing to the growing problem of electronic waste.
2. **Energy consumption:** Increased digitalization requires more energy to power data centers, networks, and devices. If the energy is derived from fossil fuels, it can contribute to carbon emissions and climate change.
3. **Material extraction:** The production of digital devices relies on the extraction of raw materials, including rare earth minerals. Unsustainable mining practices can lead to habitat destruction, pollution, and social conflicts in mining regions.

Mitigations

1. **Green IT**: Encouraging energy-efficient design and operation of digital infrastructure, including data centers, servers, and devices.
2. **Circular economy:** Promoting the recycling and refurbishment of digital devices to reduce e-waste.
3. **Renewable energy:** Transitioning to renewable energy sources to power digital infrastructure.
4. **Sustainable supply chains:** Encouraging companies to prioritize sustainable sourcing and responsible mining practices for raw materials used in digital devices.
5. **Digital literacy and awareness:** Educating individuals and businesses about the environmental impacts of digitalization and promoting responsible digital behaviors.

By actively considering and implementing these measures, it is possible to minimize and balance the negative impacts of digitalization, ensuring that its benefits are achieved in a sustainable and responsible manner

SDEC IN DIGITALISATION & ENVIRONMENTAL SUSTAINABILITY



Post COVID-19 DEVELOPMENT STRATEGY 2030

SDEC MAIN ROLES

SDEC to be the Key Driver for the Private Sector Digital Economy

DIGITAL INFRASTRUCTURE

To implement, operate, and maintain Sarawak Digital Infrastructure. Currently operates **Sarawak Rural Broadband Network (MySRBN)** including interconnectivity, core network, backend and operating support system.

TECHNOLOGY SERVICES

Manage **SDEC Hybrid Cloud Solution (SDeCloud)** including hosting and cyber security, software verification and testing, corporate IT management, and managing system integrators and service partners.

RESEARCH AND PRODUCT DEVELOPMENT

Engage in **research, accelerate innovation and commercialisation of new IPs** into private and public sectors through the **Centre of Excellence** (COE - Open Lab, Testbeds, Living Labs).

DIGITAL ECONOMY PROJECT

Rollout of **economic sectors' commercial projects** in partnership with MNCs, SMEs, private sector and leverage on industry partnerships and experienced leadership to **accelerate digital transformation.**

INNOVATION AND ENTREPRENEURSHIP

To catalyse an inclusive **innovation ecosystem benefiting innovators, start-ups and digital entrepreneurs** through bespoke support, entrepreneurship education, investment facilitation, and **acceleration opportunities across the State-wide digital innovation facilities.**

CONSULTANCY

To capitalise on industry standard platforms in order to provide relevant consultancy services, including **digital and analytics consultancy** to the private sector & relevant agencies on digital economy.

DIGITALISING SARAWAK WITH BETTER CONNECTIVITY

MySRBN

- MYSRBN provide connectivity to rural area – promote Smart Farming, provide platform for Knowledge & Awareness of Environmental Sustainability

SMART TOWER

- SMART Tower Provide backbone to IoT network such as LoRaWan, Sigfox, NBioT TvWhitespace – increase usage of IoT application in environmental monitoring

DIGITALISATION & INNOVATION OPPORTUNITIES ACROSS SARAWAK

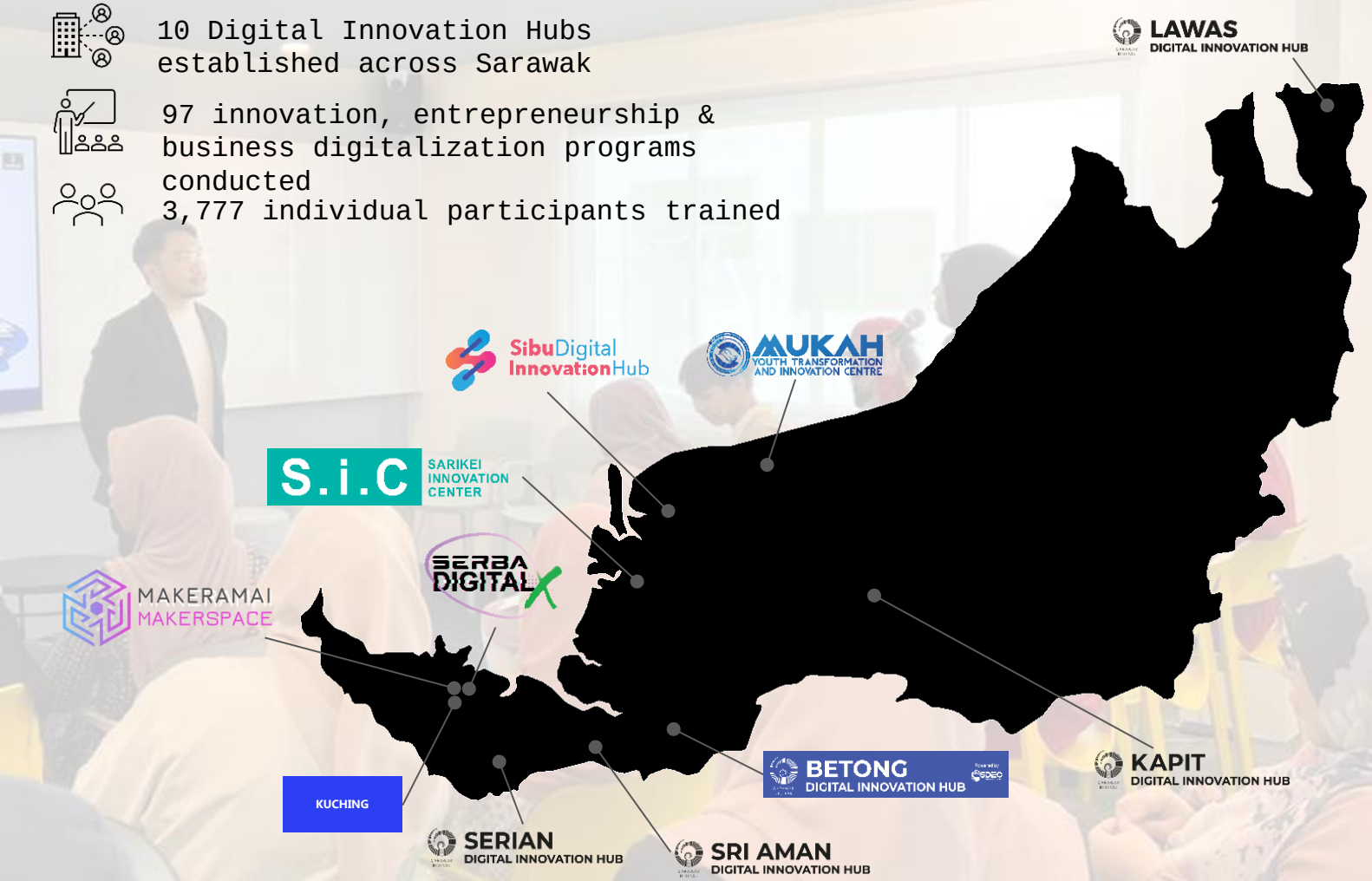
SDEC Digitalising Sarawak

Key achievements in 2022:

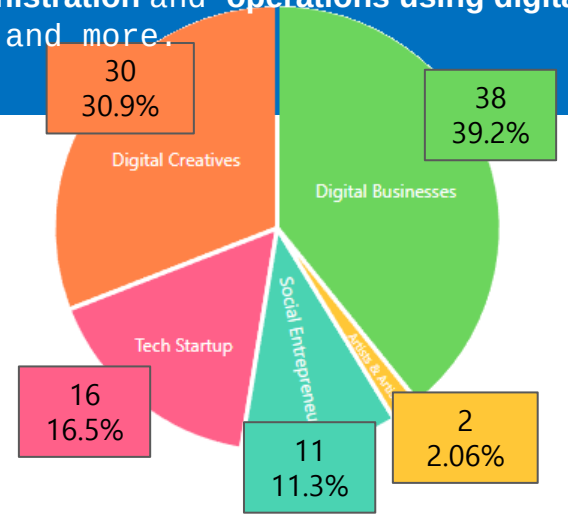
10 Digital Innovation Hubs established across Sarawak

97 innovation, entrepreneurship & business digitalization programs conducted

3,777 individual participants trained



All DIH runs programs ranging from **startup development** (business model canvas, innovation tools, hackathons, bootcamps etc.), **Tech Talent Development** (developers and programmers), **digital creatives** (photography, videography, digital editing, animation etc.), **business administration** and **operations using digital tools** and more.



Partner Facilities

DIGITAL COMMUNITY CENTRE
PEDi Pusat Ekonomi Digital Keluarga Malaysia
PLUX
iCUBE INNOVATION
the grounds
HAUS
Digital Village.

HIGHLIGHTS FROM A VARIETY OF DIGITAL INNOVATION INITIATIVES

SDEC Digitalising Sarawak

DiVA Digital Village Accelerator Highlights

SINISANA

- Winner of MIHAS for **Most Innovative Services**, Winner of TFF x Cargill Topical Prize for Web3 in Food and Agriculture

NEUON ARTIFICIAL INTELLIGENCE

- Recipient of **Cradle's CIP 2022 grant**
- Winner of MOSTI's MyHackathon 2021
- Solution being pilot with JKR

TIMOGAH®

- Emerged as **runner-up** under the Business Innovation category in the **2022 Global Shell LiveWIRE Top Ten Innovators Award**

GODIGITAL SARAWAK

Initiated by MINTRED, powered by SDEC

MBAN MALAYSIAN BUSINESS ANGEL NETWORK SARAWAK CHAPTER

To date **110 high net worth** individuals have been trained, with **20 angel investors**

SDEC Shopee SARAWAK DIGITAL MALL

Partnership with Shopee that supported **7372** local sellers, generating **RM 17.5 Million** in sales

DIGITAL ECONOMY TESTBEDS & IR 4.0 PROTOTYPING LAB

CENTEXS, RAMPANGI

Smart City Testbed

Smart City Testbed focusing on the technology that can improve the quality of life for local communities. The following are the current major technologies in the Smart City Testbed:

- 5G technology
- Sigfox IoT Technology

SARTECH, SEMENGGOH

Smart Agriculture Testbed

Will be located at Semenggoh, focusing on digital technologies that can fit into smart agriculture sector, complimenting Agriculture Research Centre's capability and capacity.

SMART CITY TESTBED

SMART AGRICULTURE TESTBED

INDUSTRY 4.0 TESTBED & PROTOTYPING LAB

INDUSTRY 4.0 TESTBED

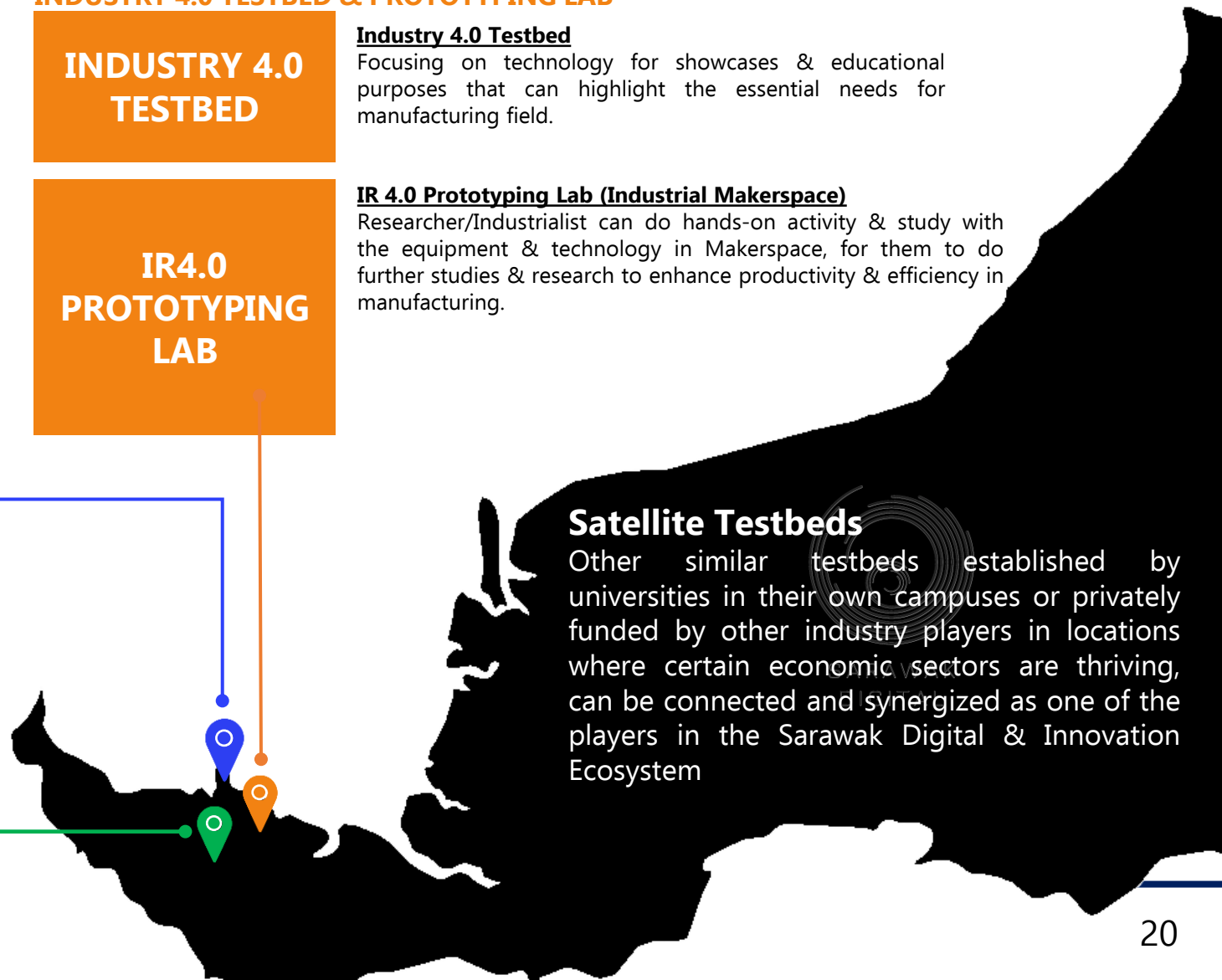
IR4.0 PROTOTYPING LAB

Industry 4.0 Testbed

Focusing on technology for showcases & educational purposes that can highlight the essential needs for manufacturing field.

IR 4.0 Prototyping Lab (Industrial Makerspace)

Researcher/Industrialist can do hands-on activity & study with the equipment & technology in Makerspace, for them to do further studies & research to enhance productivity & efficiency in manufacturing.



Satellite Testbeds

Other similar testbeds established by universities in their own campuses or privately funded by other industry players in locations where certain economic sectors are thriving, can be connected and synergized as one of the players in the Sarawak Digital & Innovation Ecosystem

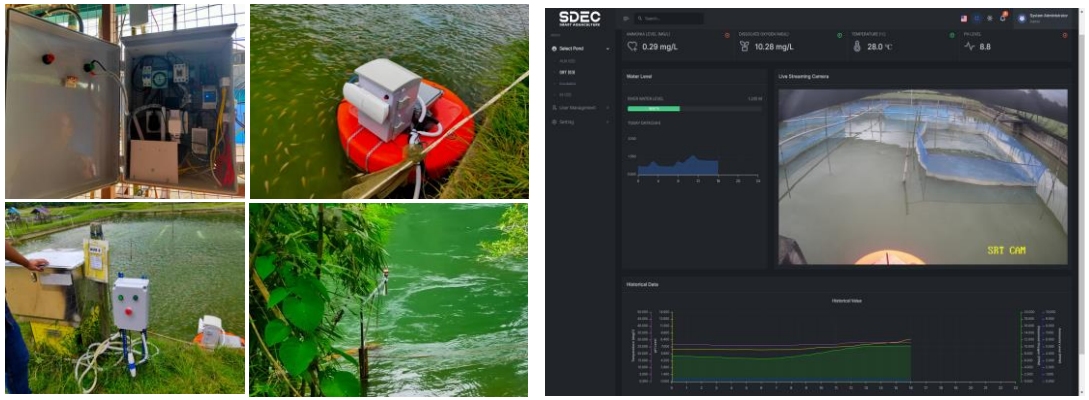
SMART FARMING PRODUCT DEVELOPMENT

1. Precision & Discipline Agriculture Facility

SDEC Precision & Discipline Agriculture Facility (PDAF) is an end-to-end fully integrated high-tech agriculture platform for greenhouses and open-field

2. Smart Aquaculture Solution (SAS)

IoT technology & platform for SAS to perform remote monitoring and automation for fish fries production with AI capability



- Resource optimization & Increase Crop Efficiency
  - Reduce water waste
  - Reduce fertilizers & pesticides usage
    -> Reduce environmental pollution

ENVIRONMENTAL SUSTAINABILITY RELATED PROJECTS

e-Mobility
- EV charging app
- EV Charge Point Operator (CPO)
- EV vehichle rental

Border Security Patrol
- Drone surveillance
- Secured communication

RIMS for TROPI
- Research Information Management Systems (RIMS)

Smart Farming
- TKPM Rampangi
- Precision Farming, Centex Santubong

SDEC Digitalising Sarawak

WCIT2023 KUCHING, SARAWAK, MALAYSIA WORLD CONGRESS ON INNOVATION & TECHNOLOGY

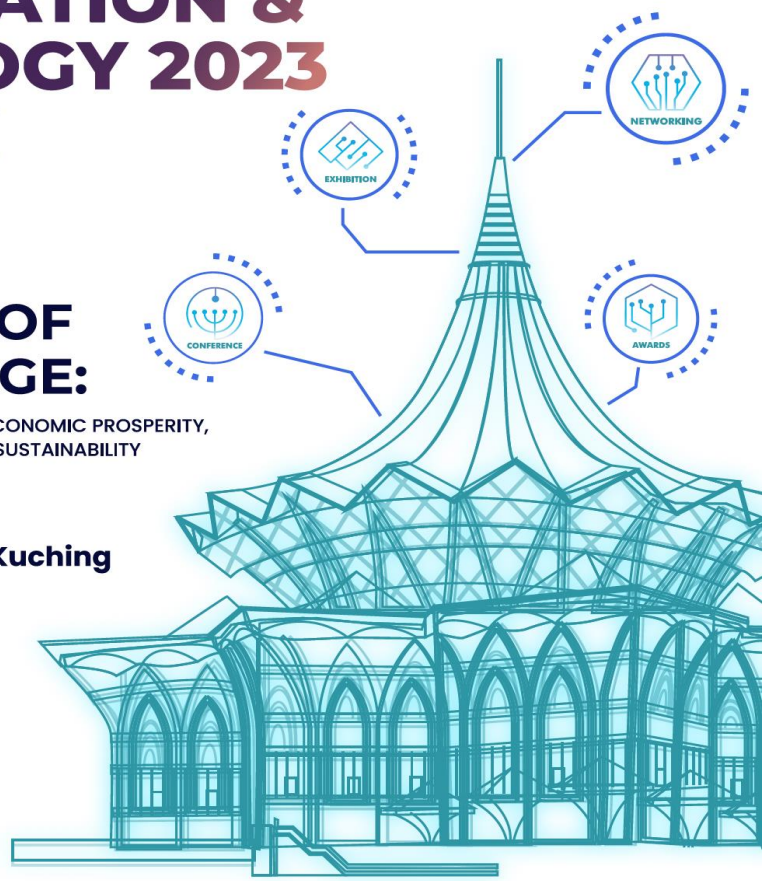
WORLD CONGRESS ON INNOVATION & TECHNOLOGY 2023 SARAWAK

FULFILLING THE PROMISE OF THE DIGITAL AGE:

INNOVATION AND TECHNOLOGY DRIVING ECONOMIC PROSPERITY, SOCIAL INCLUSIVITY AND ENVIRONMENTAL SUSTAINABILITY

4 - 6 OCTOBER 2023

Borneo Convention Centre Kuching (BCCK) Sarawak, Malaysia



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ABOUT WCIT 2023

First ever to be held in Kuching City, the capital for Sarawak, Malaysia's Borneo region, WCIT 2023 will witness world leaders, policy makers, academics and digital communities from science, technology, and the humanities field, converge to discuss existing challenges and approaches related to the digital age. This 27th installment of WCIT, guided by the principle of "Fulfilling the Promise of the Digital Age", is in line with Sarawak's digital economy blueprint.

DESTINATION

Sarawak is emerging as a leading digitised State within Southeast Asia (SEA). The region has seen an increase of 9.9% of digital communities, bringing the total number to 463 million (wearesocial, 2023). Diverse communities here are spending more time than ever before in virtual spaces, prospering innovation cultures and fostering inclusivity. This year's WCIT2023 will facilitate these dialogues, transformation and connecting Southeast Asia to the rest of the world.

KEY TOPICS

CIRCULAR ECONOMY (CE) · DIVERSITY AND INCLUSIVITY · SUSTAINABILITY · 5G · SMART CITIES · GLOBAL ICT POLICY

3 IMPACTFUL DAYS

2500+ DELEGATES
80+ COUNTRIES
200+ SPEAKERS

Hosted By

Sarawak Government

Event Organiser · A Signature Event of · Host Association · Supported By

SDEC
Digitalising Sarawak

Synergising the

SARAWAK
DIGITAL

Ecosystem

THANK YOU