

22 June 2023 | 15h00

 Virtual

WEBINAR

Sarawak

Business & Investment Opportunities
for French Companies

Organised by



In Collaboration with



KEY ECONOMIC SECTORS AND ENABLERS

The Plan will anchor on 6 Economic Sectors and 7 enablers



The PCDS 2030 is anchored on 6 economic sectors as the main engines of growth, namely Manufacturing, Commercial Agriculture, Tourism, Forestry, Mining and Social Services. The 6 economic sectors will be supported by 7 enablers namely Digital Transformation, Innovation, Basic Infrastructure, Transport, Utilities, Renewable Energy and Education and Human Capital Development.



SARAWAK CORRIDOR OF RENEWABLE ENERGY (SCORE)

- 1. SCORE AND RECODA**
- 2. REGIONAL DEVELOPMENT AGENCIES UNDER RECODA**
- 3. DEVELOPMENT PROGRAMMES AND PROJECTS**
- 4. PRIVATE INVESTMENT IN SCORE**

1. SCORE AND RECODA

2. REGIONAL DEVELOPMENT AGENCIES UNDER RECODA

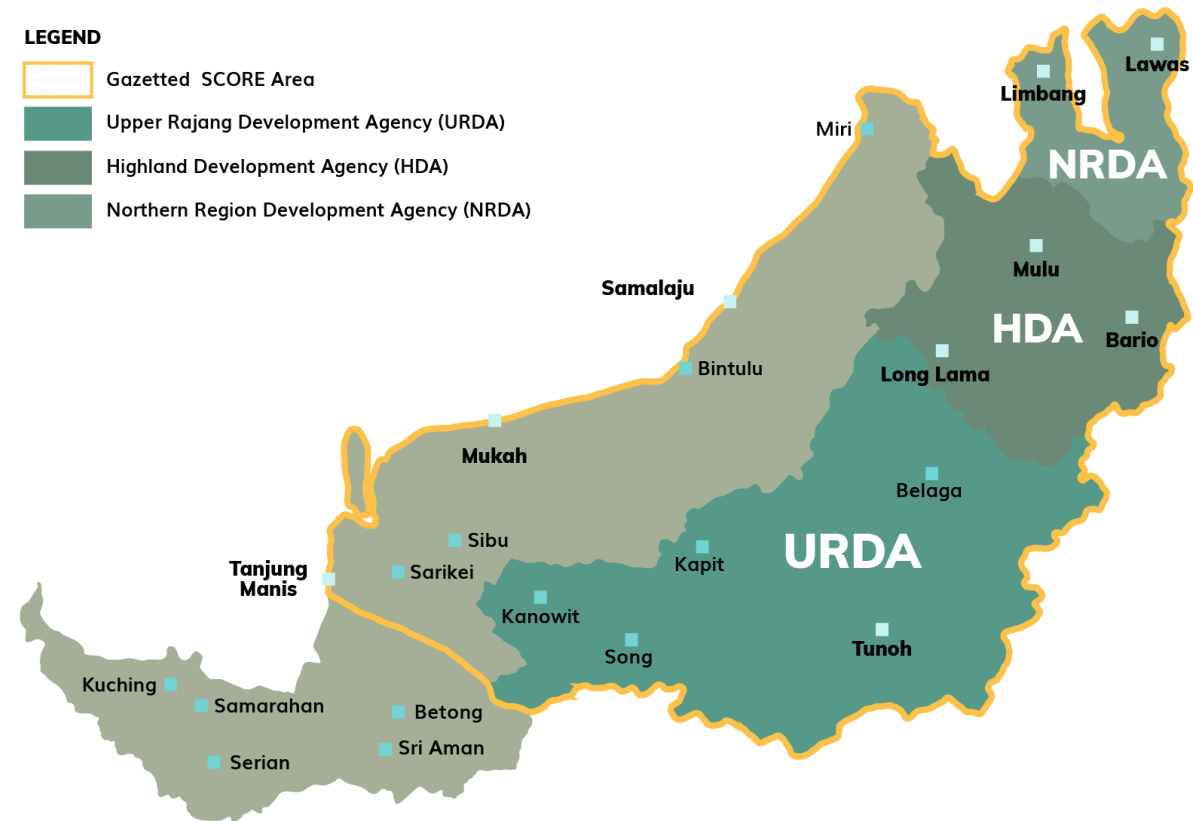
3. DEVELOPMENT PROGRAMMES AND PROJECTS

4. PRIVATE INVESTMENT IN SCORE

SARAWAK CORRIDOR OF RENEWABLE ENERGY (SCORE)



- Regional Corridor Development Authority (RECODA) was set up in 2006 to oversee and manage the SCORE Development Plan.
- SCORE area spans more than 100,000 km² (about 80% of Sarawak). Sarawak's total land area is about 124,451 km².
- Extends from the central region to the northern region of Sarawak.
- Leverages on abundant clean renewable energy (hydro-electric power) and natural resources to drive energy-intensive industries and to attract other investments into the area.
- In 2017, 3 development agencies were established to further focus and accelerated efforts of SCORE development namely:
 - Upper Rajang Development Agency (URDA), 41,186.5 km²;
 - Highland Development Agency (HDA) - 18,463 km²; and
 - Northern Region Development Agency (NRDA), 7,790 km²



12 PRIORITY INDUSTRIES IN SCORE



Aluminium



Glass



Steel - Metal



Oil-palm based



Aquaculture



Timber- based



Marine Engineering



Oil & Gas



Tourism



Livestock



Biotechnology



Digital Technology

TRIGGER INDUSTRIES

STEEL AND FERROALLOYS

SCORE has abundant reserves of energy for this energy-intensive industry.

ALUMINIUM

The large potential markets for aluminium products include China, ASEAN and the domestic market.

OIL & GAS, PETROCHEMICAL

Downstream petrochemical investment could take advantage of SCORE's potential in this industry.

GLASS (METALLIC AND POLYSILICON INDUSTRY)

The relevant segments in this industry are float glass-making; downstream activities involving automotive components and construction components.



POWER GENERATION FOR SCORE



Murum HEP
944MW



Baleh HEP
1,285MW



Mukah Coal Fired Plant
270MW



Bakun HEP
2,400MW

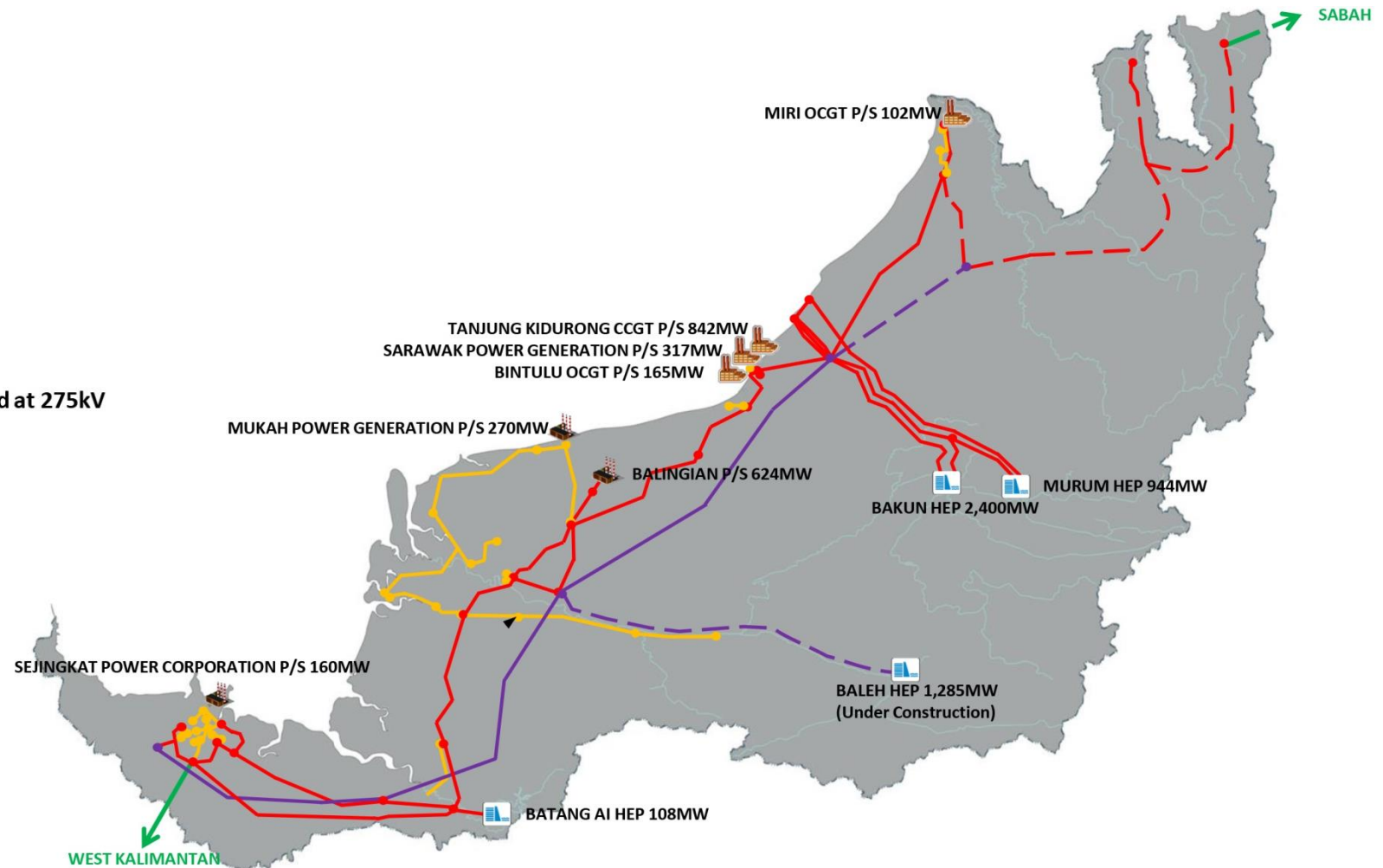
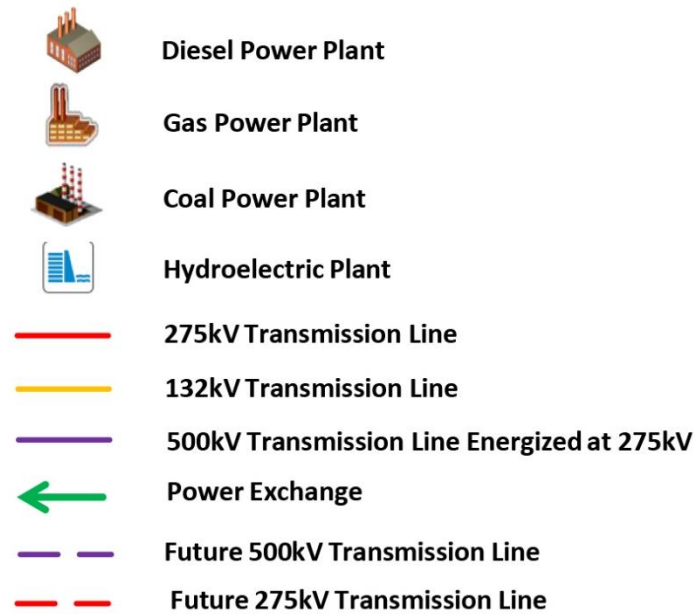


Tanjung Kidurong CCGT
842MW



Balingian Coal Fired Plant
600MW

POWER GENERATION



Source: Sarawak Energy Bhd

REGIONAL CORRIDOR DEVELOPMENT AUTHORITY (RECODA)



We oversee and manage the SCORE Development Plan as the implementing agency for infrastructure and socio-economic projects within the SCORE region. We are also tasked with drawing investors to Sarawak and creating job opportunities.

1

**Attracting
investors to
Sarawak,
within the
SCORE area**

2

**Implementing
infrastructure
projects for
rural
development**

3

**Implementing
socio-
economic
projects to
improve
household
income**

VISION

The lead agency to transform SCORE into a competitive and progressive region through sustainable economic development.

MISSION

We are committed to accelerate economic growth and development for SCORE by attracting and facilitating more investments into SCORE.

We create a conducive ecosystem for investment through the provision of physical, industrial and digital infrastructure and amenities.

We execute orderly and balanced development through our Regional Development Agencies.

We strive to be professional, efficient, effective and business friendly to our stakeholders and customers.

RECODA BOARD MEMBERS



CHAIRMAN
**YAB DATUK PATINGGI TAN SRI (DR.) ABANG HAJI
ABDUL RAHMAN ZOHARI BIN TUN DATUK ABANG HAJI
OPENG**
Premier of Sarawak



MEMBER
**YB DATUK AMAR DOUGLAS
UGGAH EMBAS**
Deputy Premier of Sarawak



MEMBER
**YB DATUK AMAR HAJI
AWANG TENGAH BIN ALI
HASAN**
Deputy Premier of Sarawak



MEMBER
**YB DATO SRI ALEXANDER
NANTA LINGGI**
*Minister of Works
Malaysia*



MEMBER
**YB DATUK AMAR HAJI
MOHAMAD ABU BAKAR
BIN MARZUKI**
Sarawak State Secretary



MEMBER
**YBHG TAN SRI DATO' SERI
MOHD ZUKI BIN ALI**
*Chief Secretary to the
Government of Malaysia*



MEMBER
**YBHG DATO SRI DR. HAJI
WAN LIZOZMAN BIN
WAN OMAR**
State Financial Secretary



MEMBER
**YBHG DATUK JOHAN
MAHMOOD MERICAN**
*Treasury Secretary General
Ministry of Finance Malaysia*



ADVISOR
**YBHG TAN SRI RAFIDAH
AZIZ**



SECRETARY
**YBHG DATU ISMAWI BIN
HAJI ISMUNI**
*Chief Executive Office,
RECODA*



MEMBER
**YBHG DATO' NOR AZMIE
BIN DIRON**
*Director General
Economic Planning Unit
Prime Minister's
Department*



MEMBER
**YBHG DATUK ARHAM BIN
ABDUL RAHMAN**
*Chief Executive Officer
Malaysian Investment
Development Authority*



MEMBER
**YBHG DATU DR.
MUHAMMAD ABDULLAH
BIN HAJI ZAIDEL**
*Deputy State Secretary
(Economic Planning &
Development)*

RECODA'S STRATEGIC PILLARS



RECODA looks to accelerate the development of Sarawak through the following strategic pillars:



Power Sector

Increase and expand power generation capacity throughout the state



Institutions

Collaborate with various government and agencies for further R&D capabilities and creation of supporting institutions



Infrastructure

Create a network of industrial-class transportation and communication infrastructure within the corridor to open up the hinterland



Human Capital

Accelerate human capital development within the Corridor with new learning centers, youth development priorities and immigration of skilled foreign workers



Socio-Economy

Implement people-centric programs focused on rural area for economic prosperity and ridge income gap between urban and rural population



Industries

Drive investments for Priority Industries toward the 7 major growth nodes along the corridor

GOVERNANCE STRUCTURE



RECODA BOARD
Chairman : YAB Premier of Sarawak

RECODA CEO

**Investment Promotion
Division**

- To attract and facilitate investment into the SCORE area to create business and job opportunities to increase income and economic growth
- To plan and implement socio-economic programmes to improve household income

**Project Management
Division**

- To plan and implement infrastructure projects in SCORE area under RECODA
- To oversee and manage Federal and State funded projects in SCORE area under RECODA

**Corporate Services
Division**

- Responsible for the overall financial standing of RECODA
- To manage human resource, administration, procurement and other support services of RECODA to achieve the overall strategy of the organisation

REGIONAL DEVELOPMENT AGENCIES UNDER RECODA



**Upper Rajang
Development Agency**

- To spur development in areas of Upper Rajang area encompassing Kapit, Belaga, Song & Kanowit Districts



**Highland Development
Agency**

- To spur development in Highland Development areas within Long Lama up to Upper Baram






**Northern Region
Development Agency**

- To spur development of Northern Region Development areas namely Limbang and Lawas Districts

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REGIONAL DEVELOPMENT AGENCIES UNDER RECODA - BACKGROUND



Date of Establishment	12 July 2017	12 July 2017	15 March 2018
Board Chairman	 <p>The Honourable Dato Sri Alexander Nanta Linggi Minister of Works Malaysia</p>	 <p>The Honourable Datuk Amar Douglas Uggah Embas Deputy Premier of Sarawak Second Minister For Finance And New Economy Minister For Infrastructure And Port Development</p>	 <p>The Honourable Datuk Amar Haji Awang Tengah Ali Hasan Deputy Premier of Sarawak Second Minister For Natural Resources And Urban Development Minister For International Trade And Investment</p>
Land Size	41,186.5km²	18,463km²	7,790km²
Population (2019est)	168,700	75,800	101,500
Division	Sibu and Kapit	Miri	Limbang
District	Kanowit, Song, Kapit, Bukit Mabong and Belaga	Marudi (Puyut/Lubong Nyibong & Mulu), Telang Usan, Miri (Bario, Long Banga, Long Lellang & Seridan) & Beluru (Tinjar)	Limbang and Lawas

REGIONAL DEVELOPMENT AGENCIES UNDER RECODA – OBJECTIVES



URDA

- To spur development in areas as large as 41,186.5km² of Upper Rajang area encompassing: Kapit, Belaga, Song & Kanowit Districts
- Immediate focus: Planning and implementation of infrastructure and basic amenities development
- Potential: Hydropower generation as socio-economy programmes covering commercial agriculture, aquaculture and eco-tourism



NRDA

- To boost the economic development of the state's northern region, including Limbang and Lawas
- Immediate focus: Planning and implementation of infrastructure and basic amenities development
- Potential: Tourism, Timber Industry, Agriculture, Livestock, Petrochemical and Manufacturing



HDA

- To spur development in areas within Long Lama up to Upper Baram
- Immediate focus: Planning and implementation of infrastructure and basic amenities development
- Potential: Agriculture, Tourism, Timber Industry and Manufacturing



MASTERPLANS FOR URDA



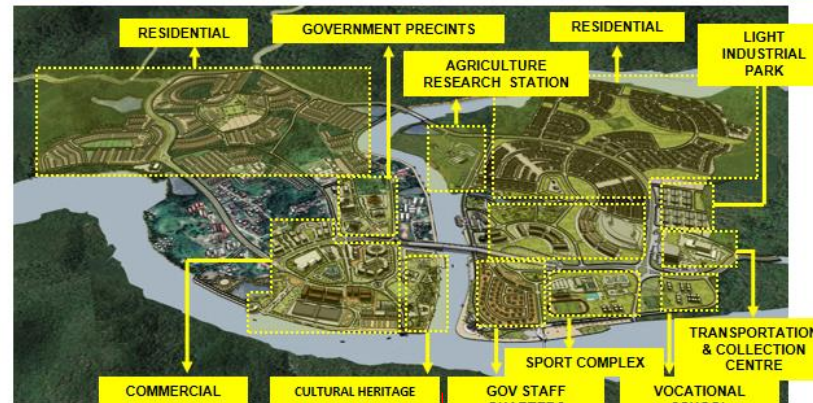
BAKUN MASTERPLAN - PROPOSED BAKUN LAKEFRONT TOWNSHIP & ISLAND RESORT LOCAL PLAN



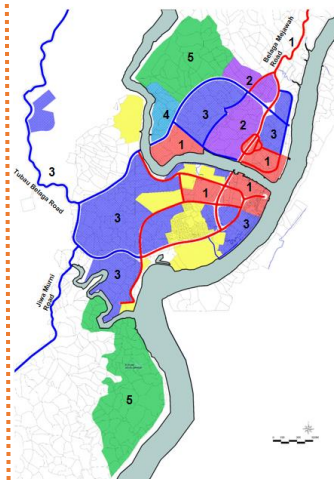
Proposed Bakun Lakefront Township & Island Resort Local Plan
Eco-Village Heart Cove Local Plan Detail



BELAGA MASTERPLAN - URBAN RENEWAL - TOWN EXPANSION



BELAGA TOWN PHASING PLAN

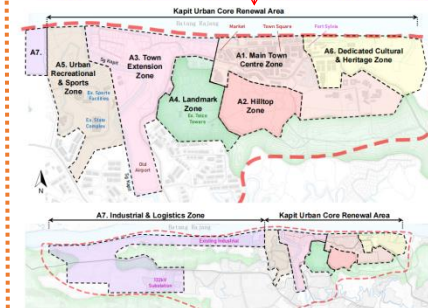
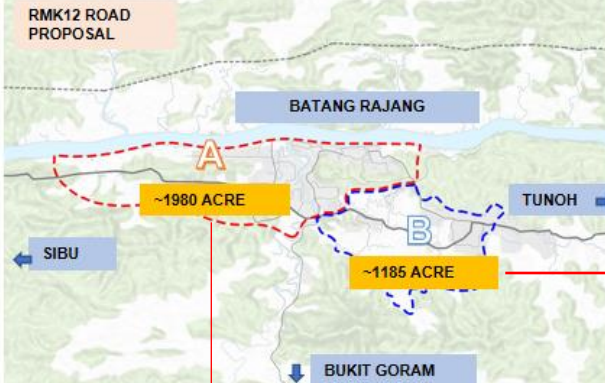


- PHASE 1 immediate term (2021 - 2025)**
 - 1. Upgrading Belaga Menjawah Road into Belaga town (instead of bailey bridge)
 - 2. Urban Renewal : government precinct, part of commercial, waterfront and heritage precinct
 - 3. Town Extension : agriculture precinct and residential quarters
- PHASE 2 immediate to mid (2026 - 2030)**
 - 1. Town Extension : commercial precinct and light industrial
- PHASE 3 mid term (2031 - 2035)**
 - 1. Upgrading outer ring road and second bridge connecting to new town extension.
 - 2. Urban Renewal : residential precinct & remaining part of commercial and waterfront precinct
 - 3. Town Extension : sport complex and training centre, & residential precinct
- PHASE 4 mid to long term (2036 - 2040)**
 - Town Extension : additional schools
- 1. PHASE 5 long term (2041 - 2050)**
 - Town Extension : residential precinct
- DEVELOPED AREA : existing schools, govt. services (bomba, police, KK), water treatment plant, existing cemetery and religious buildings**



KAPIT MASTERPLAN

- A : PROPOSE KAPIT TOWN URBAN RENEWAL MASTER PLAN
- B : PROPOSE KAPIT NEW TOWNSHIP MASTERPLAN



MASTERPLANS FOR HDA



**Vision for MULU
To Enhance Mulu
as a
World Cultural
Heritage
Destination**

Strategic Themes for Mulu:

- M-1 Fully Integrated Locally Grown Food Farm
- M-2 Extended Stay in Mulu!
- M-3 Well Connected to Reliable Supply of Utilities
- M-4 Well Protected Natural Environment
- M-5 Well Developed Community + Interpreted Park

**Vision for BARIO
To Activate Bario
as the New
Highland
Destination**

Strategic Themes for Bario:

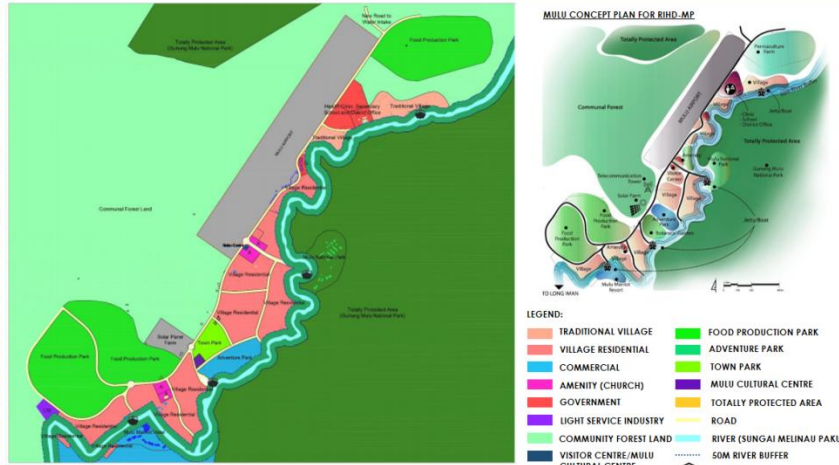
- B-1 Sustainable Food Production Enterprises
- B-2 Celebrate the Sights and Sounds of Bario!
- B-3 Enhanced Accessibility + Support Infrastructures
- B-4 Best Managed National Park
- B-5 Cultural + Heritage Conservation

**Vision for PBB-IHAS
To Develop IHAS as
the Nation's Most
Environmentally
Friendly Agricultural
Frontier**

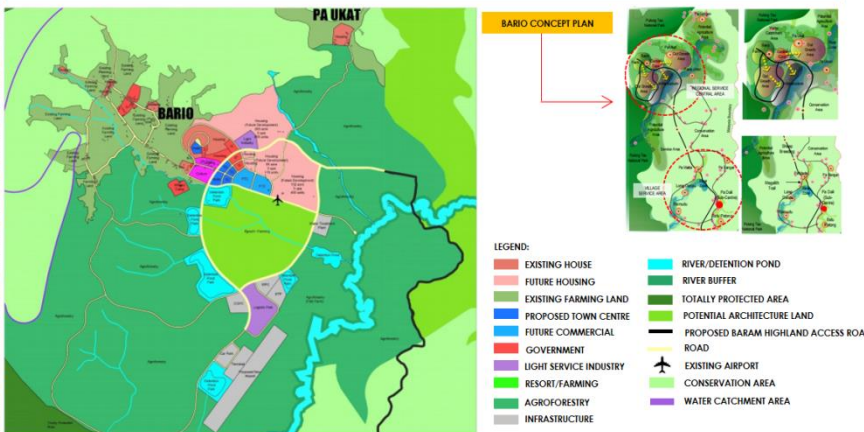
Strategic Themes for PBB-IHAS:

- P-1 High Value Sub Tropical Agriculture
- P-2 Tour De Farm!
- P-3 Smart Agriculture Support Infrastructure
- P-4 High Value Agroforestry
- P-5 Community + Environmental Management

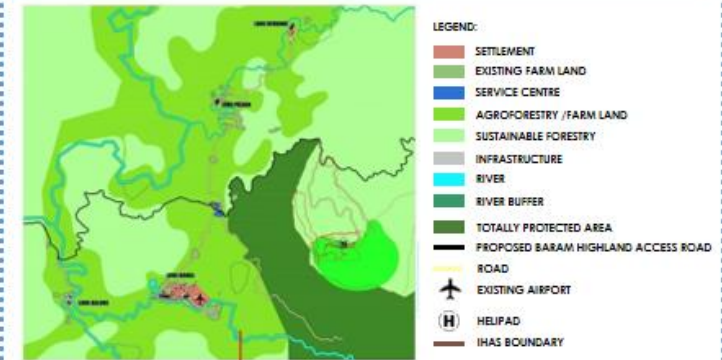
MULU MASTERPLAN : FOCUS ON ENHANCING MULU AS A TOURISM DESTINATION



BARIO MASTERPLAN FOCUS ON DEVELOPMENT OF FARMLAND THE POTENTIAL TO BE A COMMERCIAL CENTRE IN FULFILLMENT OF IT VISION AS A NEW HIGHLAND DESTINATION.



INTEGRATED HIGHLAND AGRICULTURE STATION (IHAS) TO DEVELOP IHAS AS THE NATION'S MOST ENVIRONMENTAL FRIENDLY AGRICULTURE FRONTIER



MASTERPLANS FOR NRDA



SUNDAR MASTERPLAN

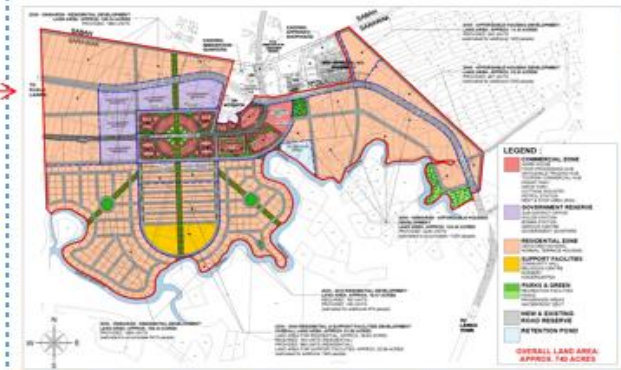


NEW LAWAS AIRPORT



OVERALL CONCEPT :
PLANNING TO FORM CONNECTIVITY BETWEEN THE THREE TOWNS (TRIANGLE FORM) TO SERVE THEIR RESPECTIVE PURPOSE.

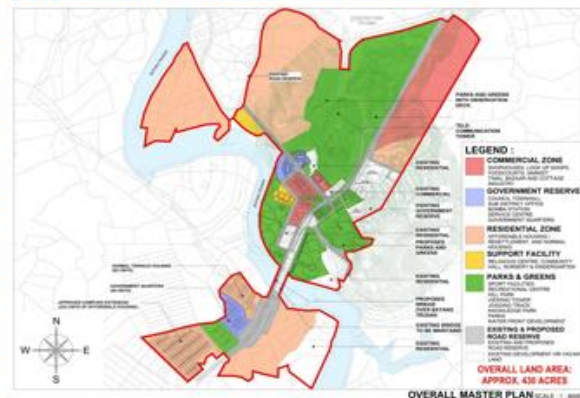
MERAPOK MASTERPLAN



NEW LAWAS DEEP WATER PORT COMPLEX



TRUSAN MASTERPLAN



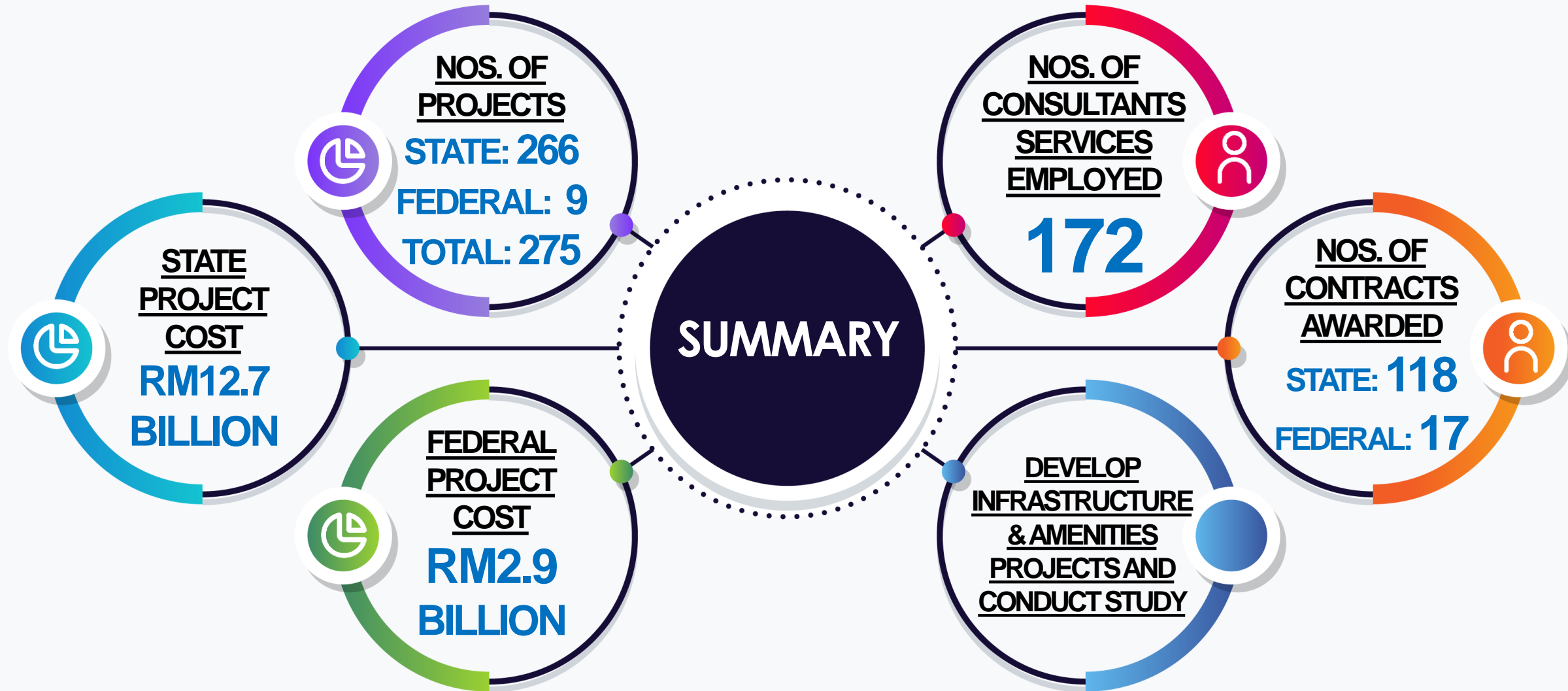
PROPOSED NEW ROAD :
AWAT-AWAT - PUNANG - KUALA LAWAS

NORTHERN COASTAL HIGHWAY (NCH)
LAWAS PACKAGE SECTION 1 (22.5 KM)



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DEVELOPMENT PROJECTS



SCORE-SAMALAJU INDUSTRIAL PARK- SITE PREPARATION & INFRASTRUCTURE (III): SECTION C1 ROAD PROJECT (PHASE 5 STAGE 4)



ROAD INFRASTRUCTURE PROJECT Phase 5 Stage 4 - Proposed Section C1 Road

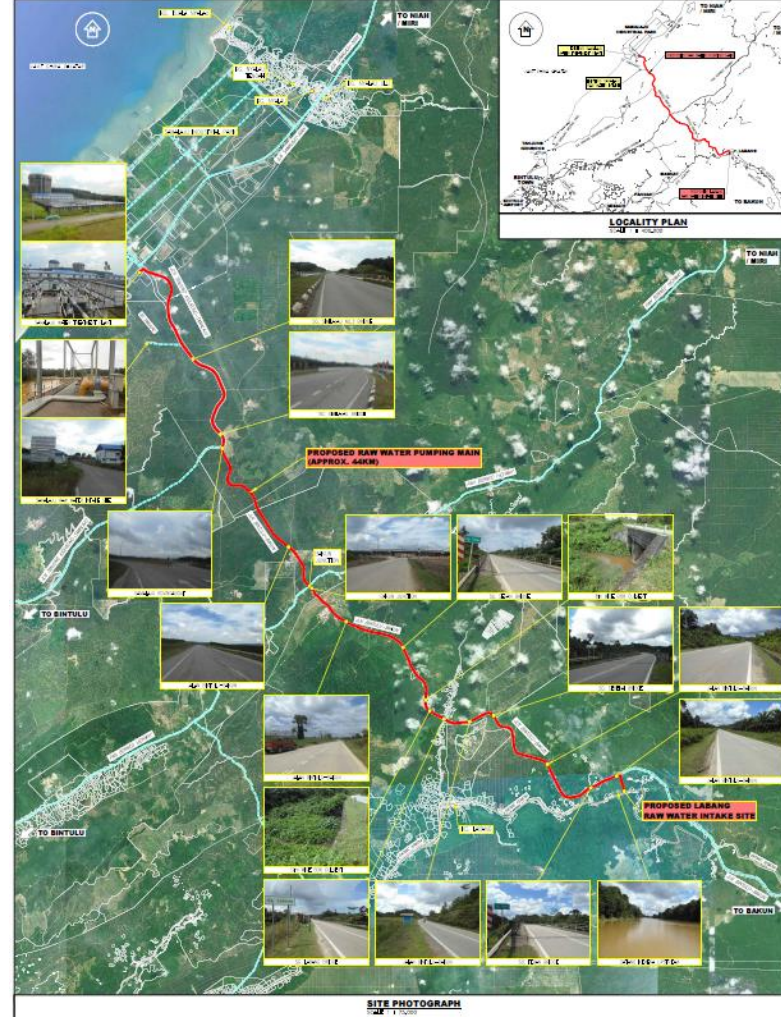
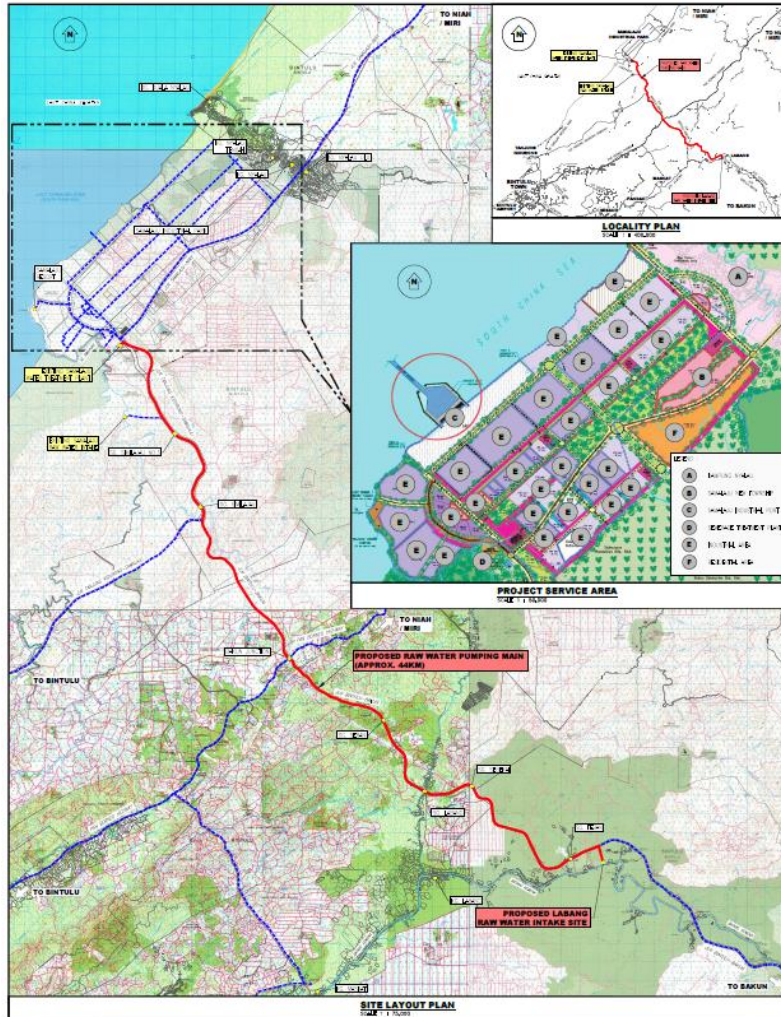
PROJECT COST: RM 90.0 MILLION
RP2 APPROVED ALLOCATION: RM 10.0 MILLION

6.0km of upgrading existing road to dual carriage way

Status: Construction expected to begin in 2023



SCORE - SAMALAJU WATER SUPPLY PROJECT PHASE 2 (STAGE 1)



SAMALAJU WATER SUPPLY PROJECT Phase 2

PROJECT COST: RM 377.8 MILLION

RP2 APPROVED ALLOCATION: RM 15.0 MILLION

To increase the capacity of existing treated water supply to Samalaju Industrial Park to 200MLD by Year 2025

Status: Construction expected to begin in 2023



MEGA PROJECTS (STATE FUNDED) NORTHERN COASTAL HIGHWAY

MEGA PROJECTS (STATE FUNDED): NORTHERN COASTAL HIGHWAY (LIMBANG SECTION – 44KM)



MEGA PROJECTS (STATE FUNDED): NORTHERN COASTAL HIGHWAY (LAWAS SECTION – 43.5KM)



**MEGA PROJECTS (STATE FUNDED)
PROPOSED ROADS LINKING MIRI-MARUDI,
MARUDI-MULU (KUALA MELINAU) AND LONG
PANAI-LONG LAMA, MIRI**

MEGA PROJECTS (STATE FUNDED): PROPOSED ROADS LINKING MIRI-MARUDI, MARUDI-MULU (KUALA MELINAU) AND LONG PANAI-LONG LAMA, MIRI



STATUS: PLANNING STAGE

On 9th June 2020, during a meeting chaired by The Right Honourable Datuk Patinggi (Dr) Abang Haji Abdul Rahman Zohari Bin Tun Datuk Abang Haji Openg, Chief Minister of Sarawak, RECODA had been tasked to implement the Proposed Roads Linking Miri-Marudi, Marudi-Mulu (Kuala Melinau) And Long Panai-Long Lama under Highland Development Agency.

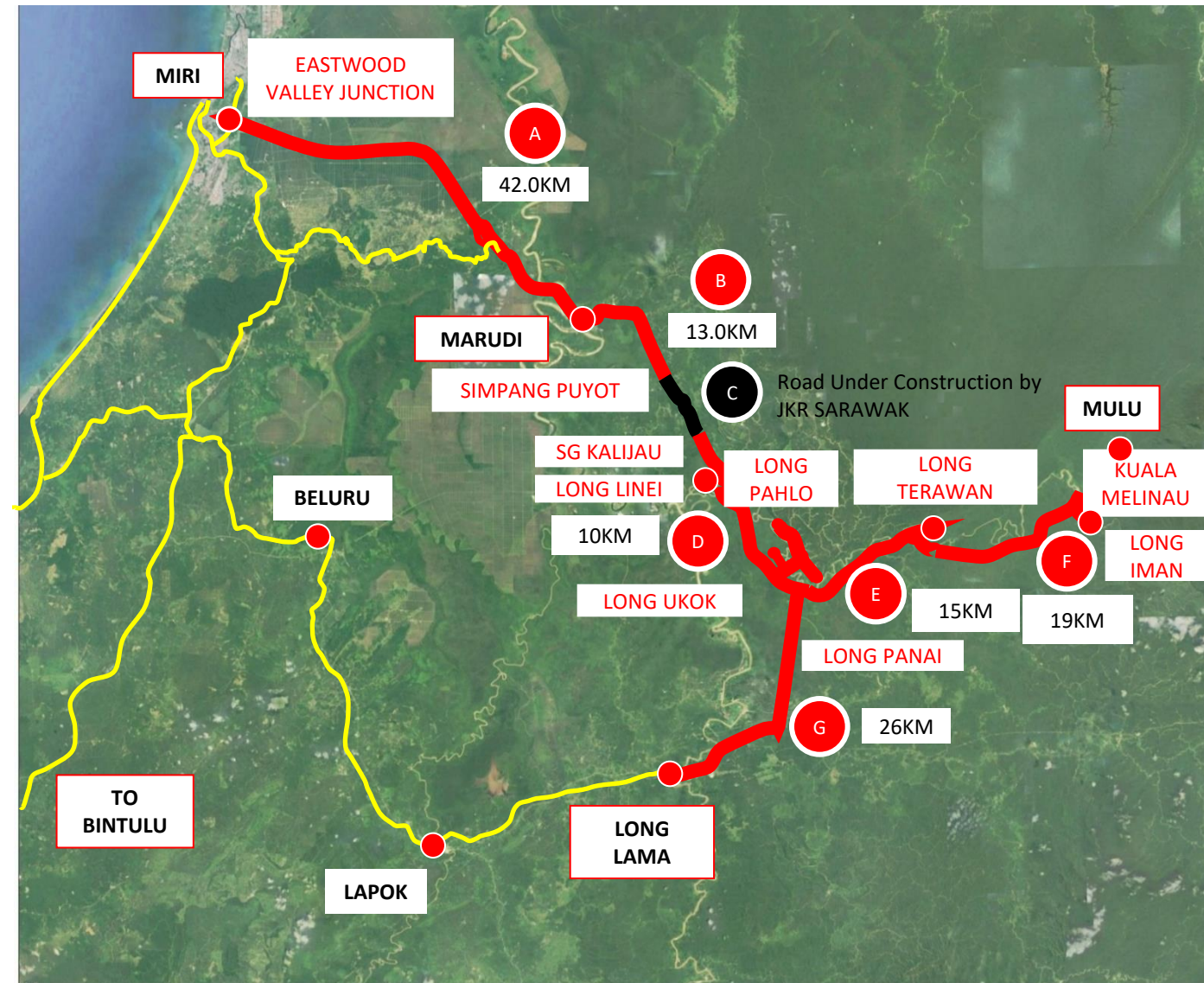
The siting plan was approved by SPA on **2nd September 2020**.

LEGEND:

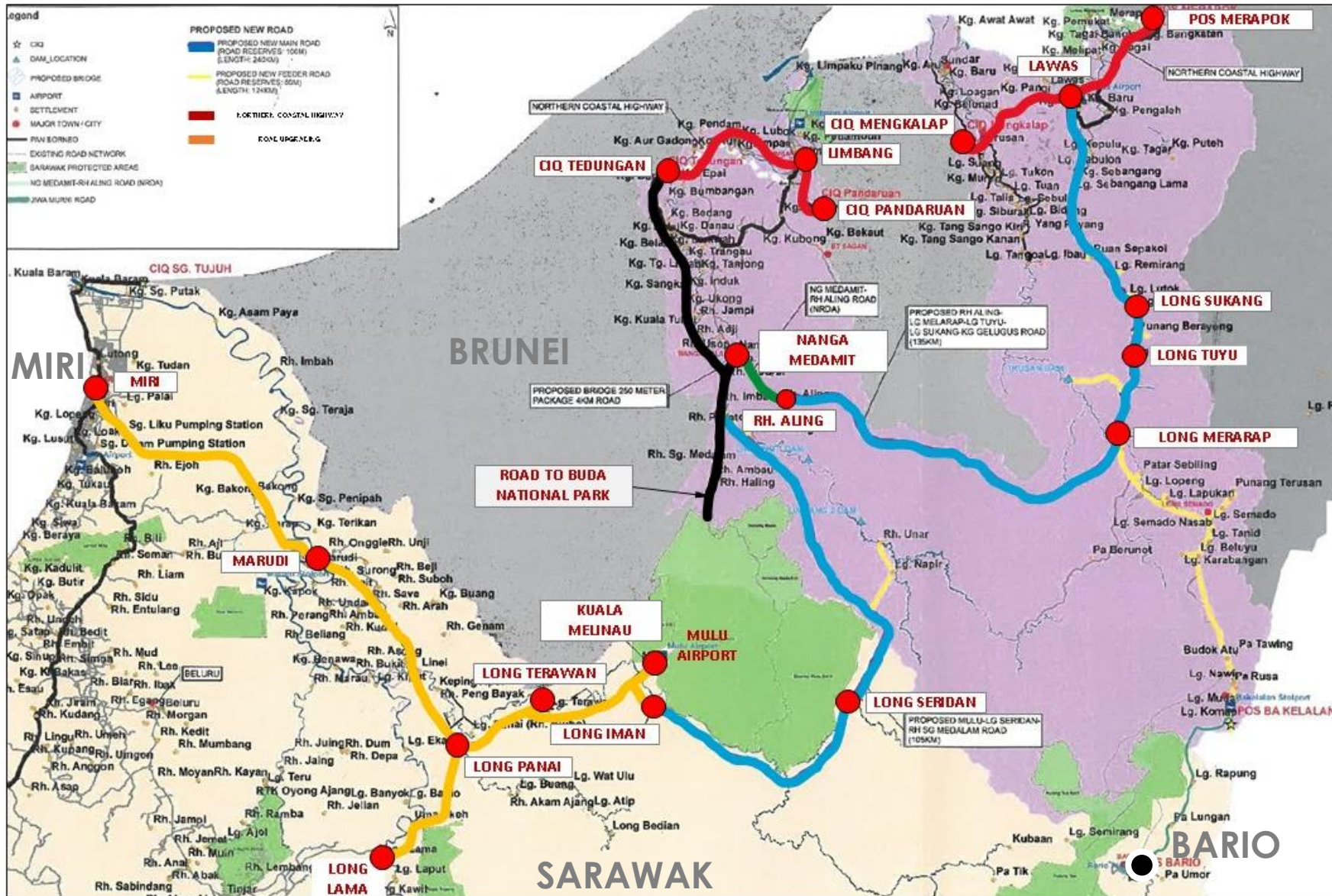
- | | | | |
|----------|---|----------|-----------------------------------|
| A | Miri (Eastwood Valley Junction to Marudi)
(42.0KM) | G | Long Panai to Long Lama
(26KM) |
| B | Marudi (Simpang Stadium) to Simpang Puyot
(13.0KM) | | |
| C | Simpang Puyot to Sg. Kalijau
(7.0KM) - under construction by JKR SARAWAK | | |
| D | Sg. Kalijau to Long Linei
(10KM) | | |
| E | Long Panai to Long Terawan
(15KM) | | |
| F | Long Terawan to Kuala Melinau
(19KM) | | |

Summary:

Miri – Mulu: 106KM
Miri – Long Lama:
78KM
Long Lama – Mulu:
60KM



MEGA PROJECTS (STATE FUNDED): OVERALL ROAD NETWORK IN THE SARAWAK NORTHERN REGION



LEGEND:

PROPOSED NORTHERN COASTAL HIGHWAY
(89.0KM)
- State Funded

PROPOSED ROADS LINKING MIRI-MARUDI, MARUDI-MULU (KUALA MELINAU) AND LONG PANAI-LONG LAMA
(160.5km)
- State Funded

PROPOSED KUALA MELINAU-LIMBANG-LAWAS ROAD (240.0KM)
- Federal Funded

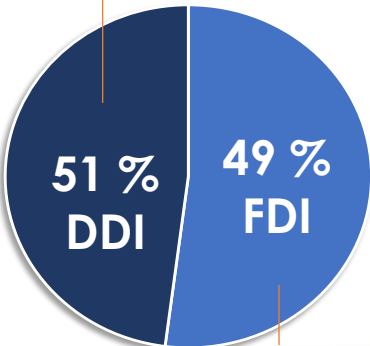
Existing Road



1. SCORE AND RECODA
2. REGIONAL DEVELOPMENT AGENCIES UNDER RECODA
3. MASTERPLANS, PROGRAMMES AND PROJECTS
- 4. PRIVATE INVESTMENT IN SCORE**

SUMMARY OF APPROVED PRIVATE INVESTMENT IN SCORE

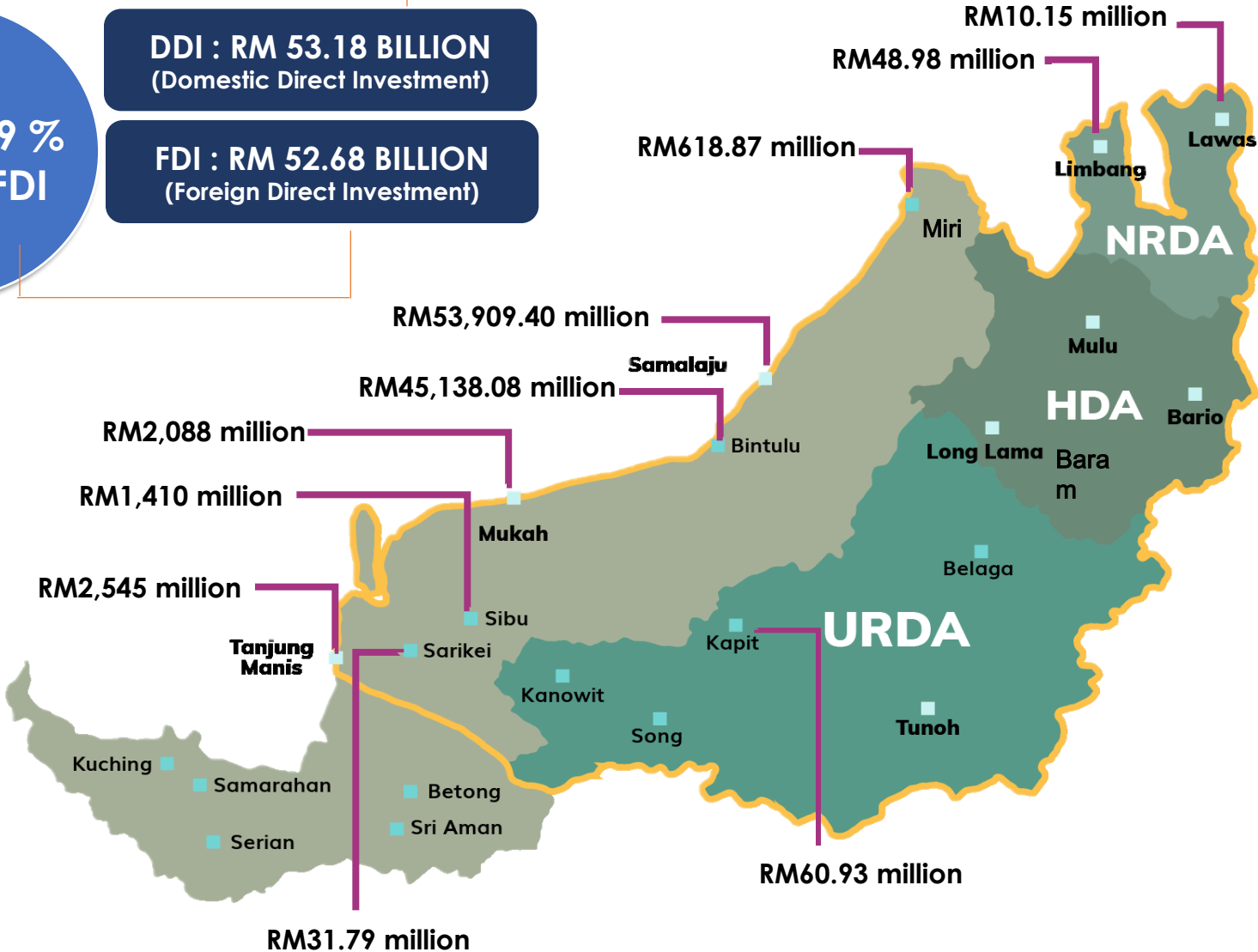
Data as of March 2023



DDI : RM 53.18 BILLION
(Domestic Direct Investment)

FDI : RM 52.68 BILLION
(Foreign Direct Investment)

■ FDI ■ DDI



TOTAL APPROVED PRIVATE INVESTMENT
= RM105.86 BILLION



JOB CREATION
= 50,343



NO. OF PROJECTS
= 377

CHANGING LANDSCAPES OF SAMALAJU



1996



2011



SAMALAJU INDUSTRIAL PARK IS DEDICATED FOR ENERGY-INTENSIVE HEAVY INDUSTRY



Image © 2021 Maxar Technologies
Image © 2021 TerraMetrics
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image © 2021 CNES / Airbus



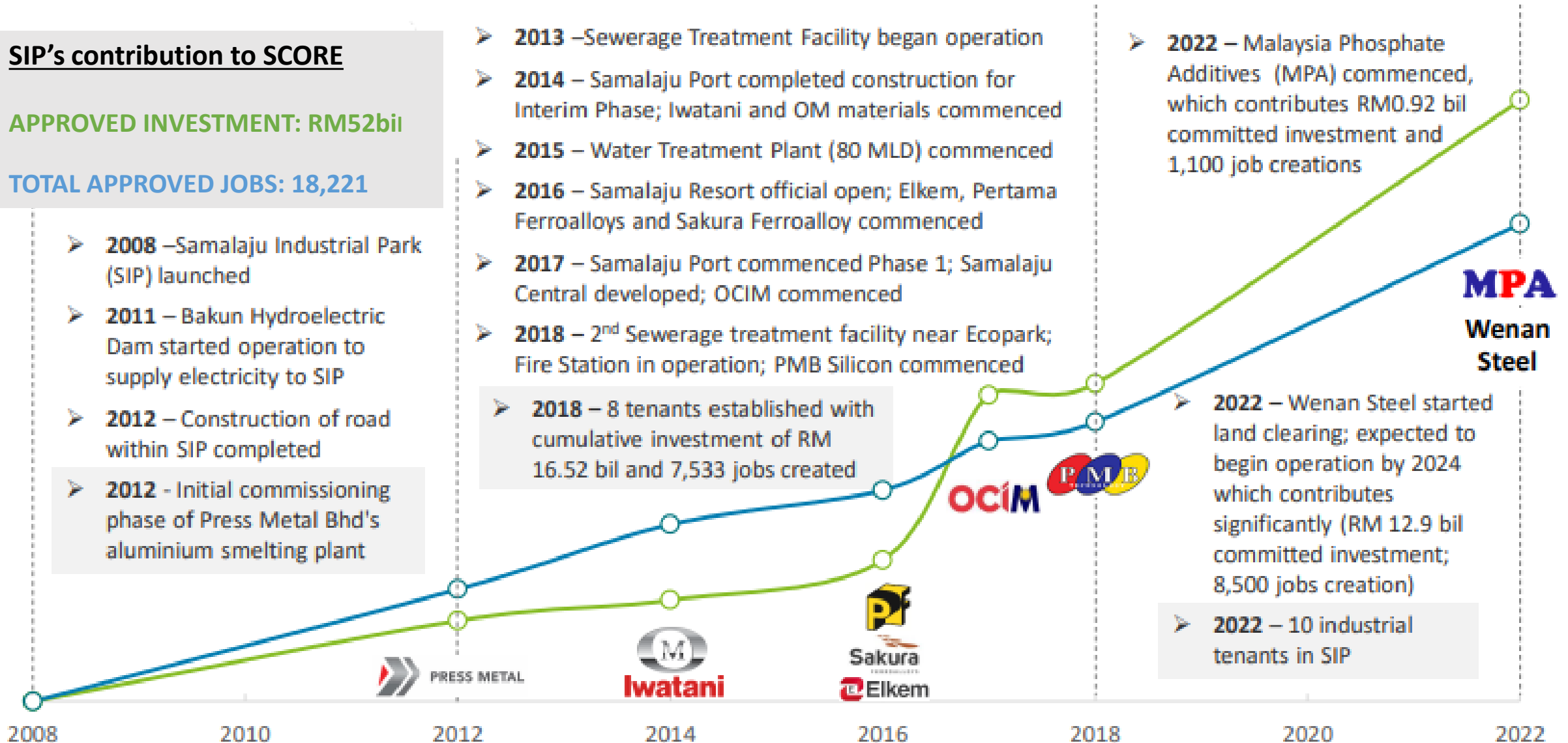
EVOLUTION OF SAMALAJU INDUSTRIAL PARK



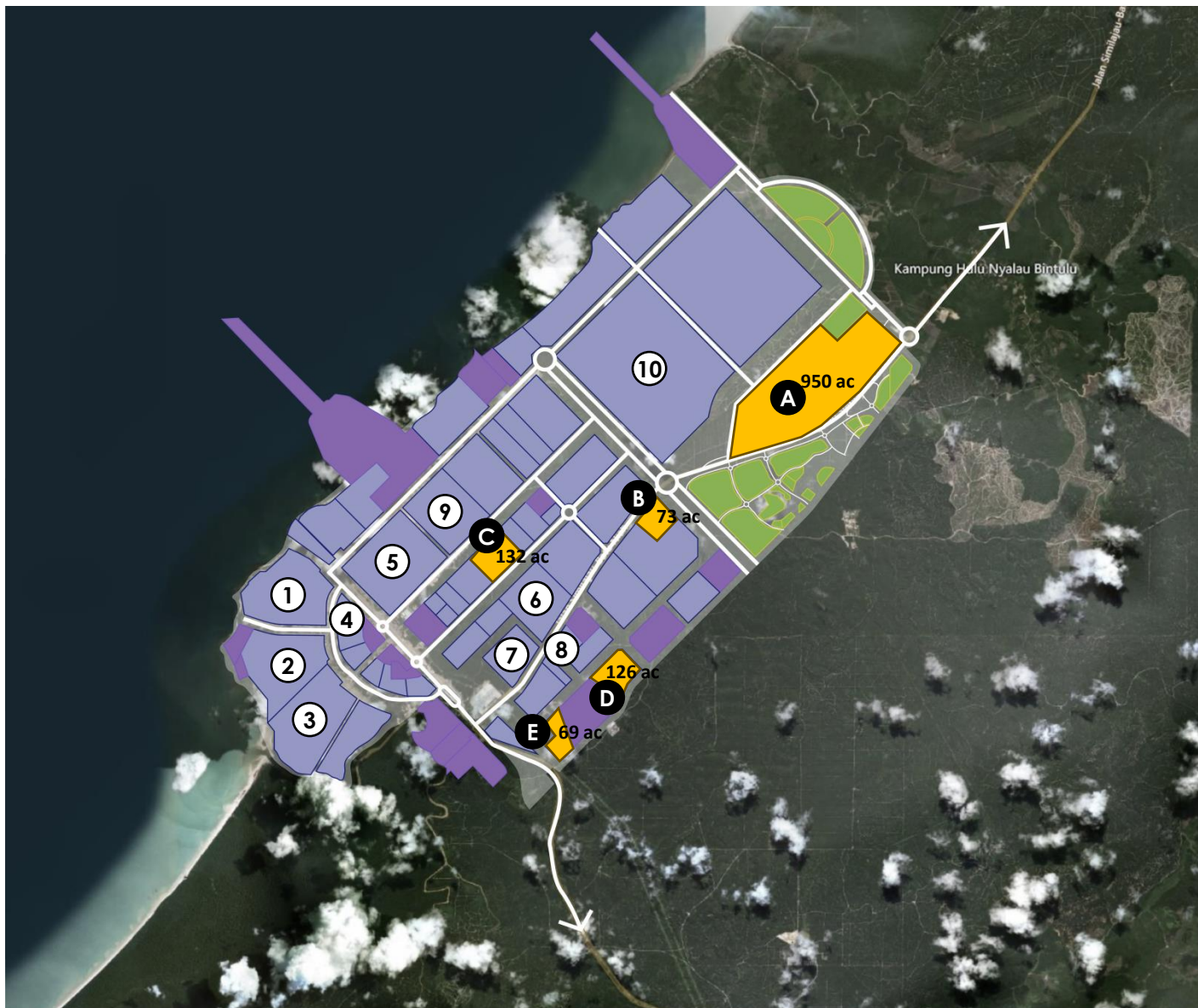
SIP's contribution to SCORE

APPROVED INVESTMENT: RM52bil

TOTAL APPROVED JOBS: 18,221



SAMALAJU INDUSTRIAL PARK



LEGEND

Land Available

- A. 950 acres
- B. 73 acres
- C. 132 acres
- D. 126 acres
- E. 69 acres

Total Available Land = 1,350 acres

Investors in Samalaju

1. OCIM Sdn Bhd
2. Pertama Ferroalloys Sdn Bhd
3. OM Materials (Sarawak) Sdn Bhd
4. Iwatani-SIG Industrial Gases Sdn Bhd
5. Press Metal Bintulu Sdn Bhd
6. Sakura Ferroalloys Sdn Bhd
7. PMB Silicon Sdn Bhd
8. Elkem Carbon Malaysia Sdn Bhd
9. Malaysian Phosphate Additives (Sarawak) Sdn Bhd
10. Wenan Steel (Malaysia) Sdn Bhd
(Under Construction)

INVESTORS PLANTS IN SIP



OCIM Sdn. Bhd.

Origin: Korea
Product: Poly-crystalline Silicon for Photovoltaic Cells and Semiconductors

Investment: RM8.57 Billion

Completion Date: 2017

Jobs Created: 1,310



OM Materials (Sarawak) Sdn. Bhd

Origin: Singapore
Product: High Carbon Ferro Manganese, Silicon Manganese and Ferro Silicon

Investment: RM1.04 Billion

Completion Date : 2013

Jobs Created: 1,700



Press Metal Bintulu Sdn. Bhd.

Origin: Malaysia
Product: Aluminium Ingots, Billets, Sheet and Foil, Extrusion and fabricated products

Investment: RM4.2 Billion

Completion Date : 2014

Jobs Created: 3,000



Pertama Ferroalloys Sdn. Bhd.

Origin: Hong Kong
Product: Ferro Silicon Alloy, Silico Manganese Alloy, Ferro Manganese Alloy

Investment: RM1.05 Billion

Completion Date : 2016

Jobs Created: 500

INVESTORS PLANTS IN SIP



Sakura Ferroalloys Sdn. Bhd.

Origin: South Africa, Japan & Bank of Taiwan
Product: High carbon Ferro Manganese and Silicon Manganese Alloy

Investment: RM1.02 Billion

Completion Date : 2017

Jobs Created: 400



PMB Silicon Sdn. Bhd.

Origin: Malaysia
Product: Metallic Silicon

Investment: RM0.60 Billion

Completion Date : 2019

Jobs Created: 510



Iwatani-SIG Industrial Gases Sdn. Bhd.

Origin: Japan & Malaysia
Product: Industrial Gas

Investment: RM0.03 Billion

Completion Date : 2013

Jobs Created: 30



Elkem Carbon Malaysian Sdn

Origin: Norway
Product: Soderberg, Electrode Paste

Investment: RM0.01 Billion

Completion Date : 2016

Jobs Created: 20

INVESTORS PLANTS IN SIP



Malaysian Phosphate Additives (Sarawak) Sdn. Bhd

Origin: Malaysia
Product: Integrated Additives and Chemical Complex
Investment: RM0.92 Billion
Completion Date : 2021
Jobs Created: 1,100



Wenan Steel (Malaysia) Sdn Bhd

Origin: China
Product: Hot Rolled Coils/Sheets, Billets, Slabs, Steel Wire Rods, Cold Rolled Coils/Sheets etc
Investment: RM13.8 Billion
Completion Date : 2025
Jobs Created: 4,200



OCiKumho Sdn Bhd

Origin: Korea
Product: Epiklorohidrin (ECH)
Investment: RM1.7 Billion
Completion Date : 2024
Jobs Created: 100

FACILITIES IN SAMALAJU INDUSTRIAL PARK



Samalaju Industrial Park (SIP) Main
Entrance and Ancillary Police Main Office

Samalaju Industrial Port



FACILITIES IN SAMALAJU INDUSTRIAL PARK



Samalaju
RESORT HOTEL

Samalaju Resort Hotel at SIP



1. Samalaju Central
2. Samalaju Eco Park

CONCLUSION



Sarawak is economically and politically stable.

Sarawak put high priority in upgrading its basic infrastructure and amenities including digital connectivity to ensure no one is left behind as well as to attract investors especially to SCORE area.

SCORE has huge investment potentials with attractive investment incentives.



THANK YOU



recodasarawak

<https://www.linkedin.com/company/recoda/>

Webinar on Sarawak

"Sarawak Biodiversity –
focus application in
(sustainable aviation fuel)
utilizing algae in Sarawak"

Dr Charlie Yeo
Chief Executive Officer
22 June 2023





Contents

1. Background
2. Libraries of the Biodiversity
3. Algae Project at SBC



SARAWAK BIODIVERSITY CENTRE

VISION

Enriching Lives with Breakthrough
Innovations in Biodiversity

MISSION

To Decode Biodiversity for the
Benefit of Sarawak

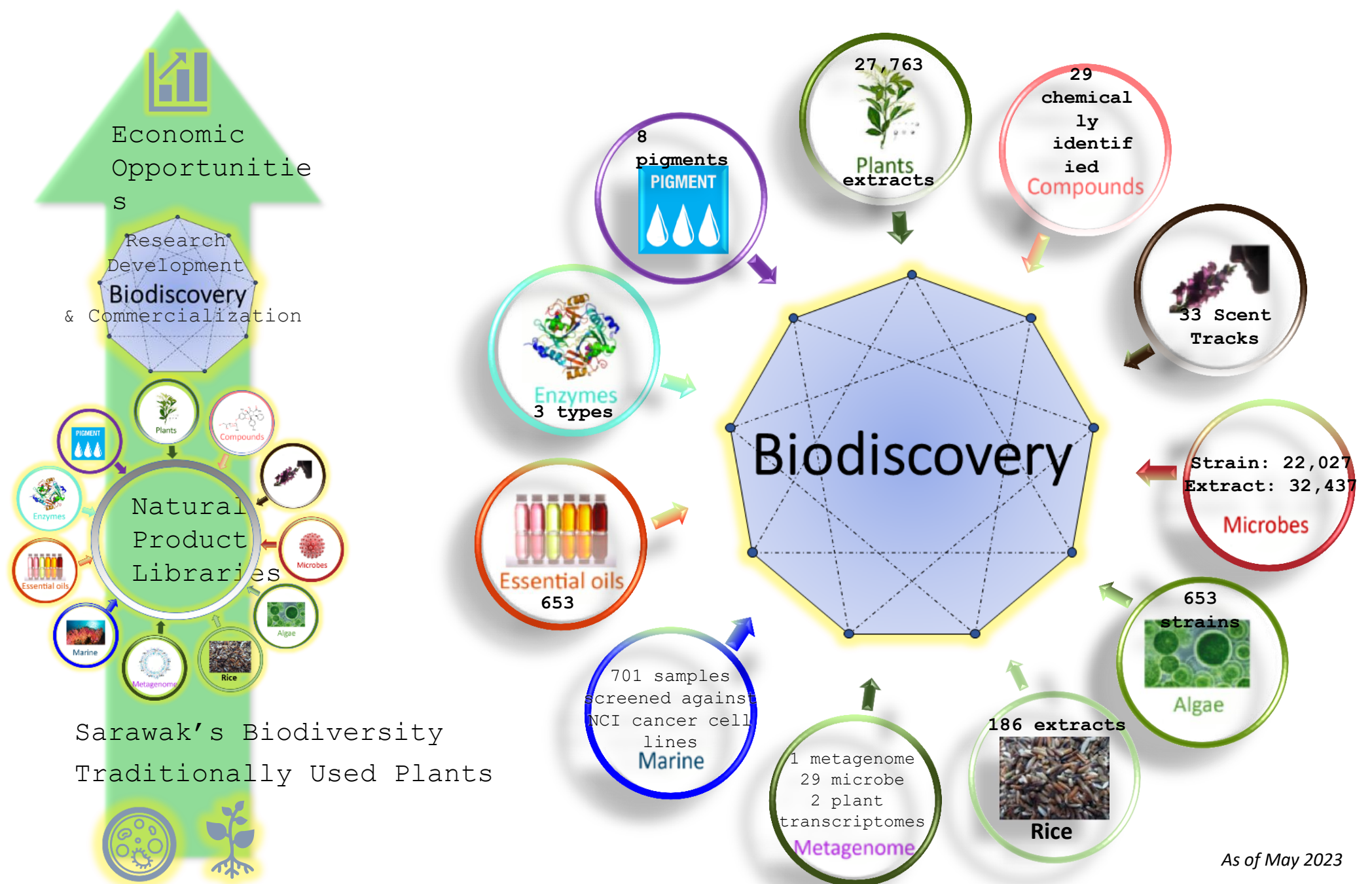
TAGLINE

Biodiversity for a Better Tomorrow

*"There Is More Money In The
Borneo Rainforest's
Biodiversity Than In Its
Deforestation"*

John Cumbers
(Forbes Sep 12, 2019)

SBC Natural Product Library (NPL)



As of May 2023



Microalgae of Sarawak

The Future of Just About Everything



Microalgae Project Milestone

Phase I: 2012 – 2014
Collection & Isolation



Library Establishment

Phase II: 2014 – 2016
Evaluation & Outdoor Test



Chemical Analysis

Phase III: 2016 – 2018
Scale up



Outdoor Cultivation System



Achievement



Strategic Partners (2012-2020)



Sarawak
Biodiversity Centre



Technical Advisor



Current Collaborators (2021 – 2024)



Sarawak
Biodiversity Centre



DIAMOND GAS
HOLDINGS SDN. BHD.



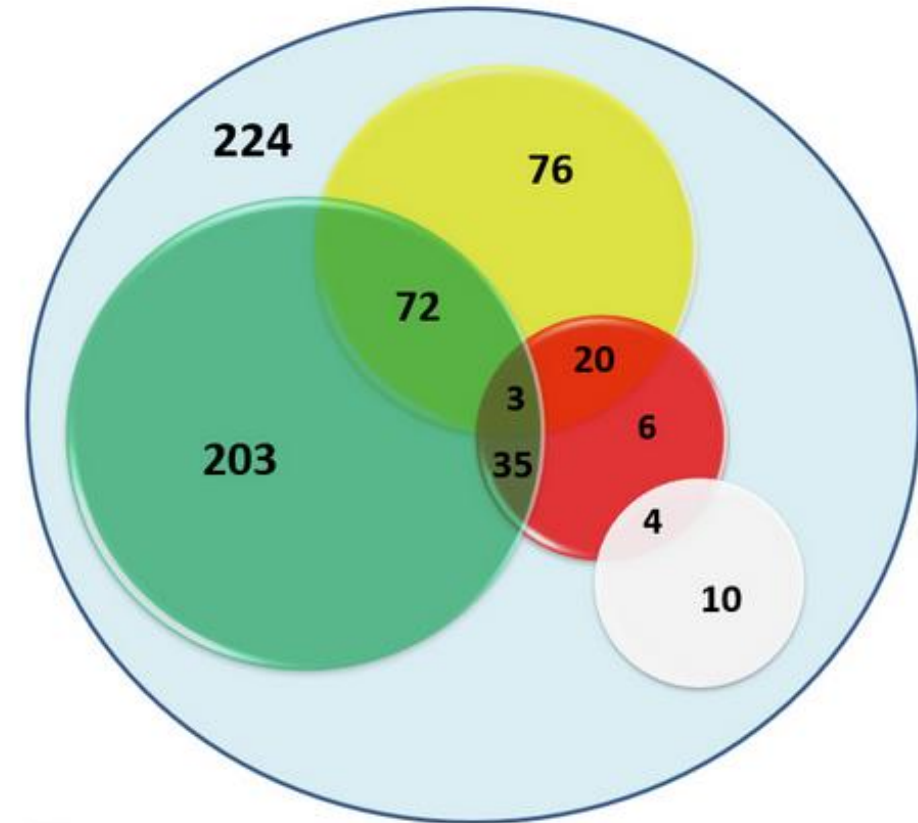
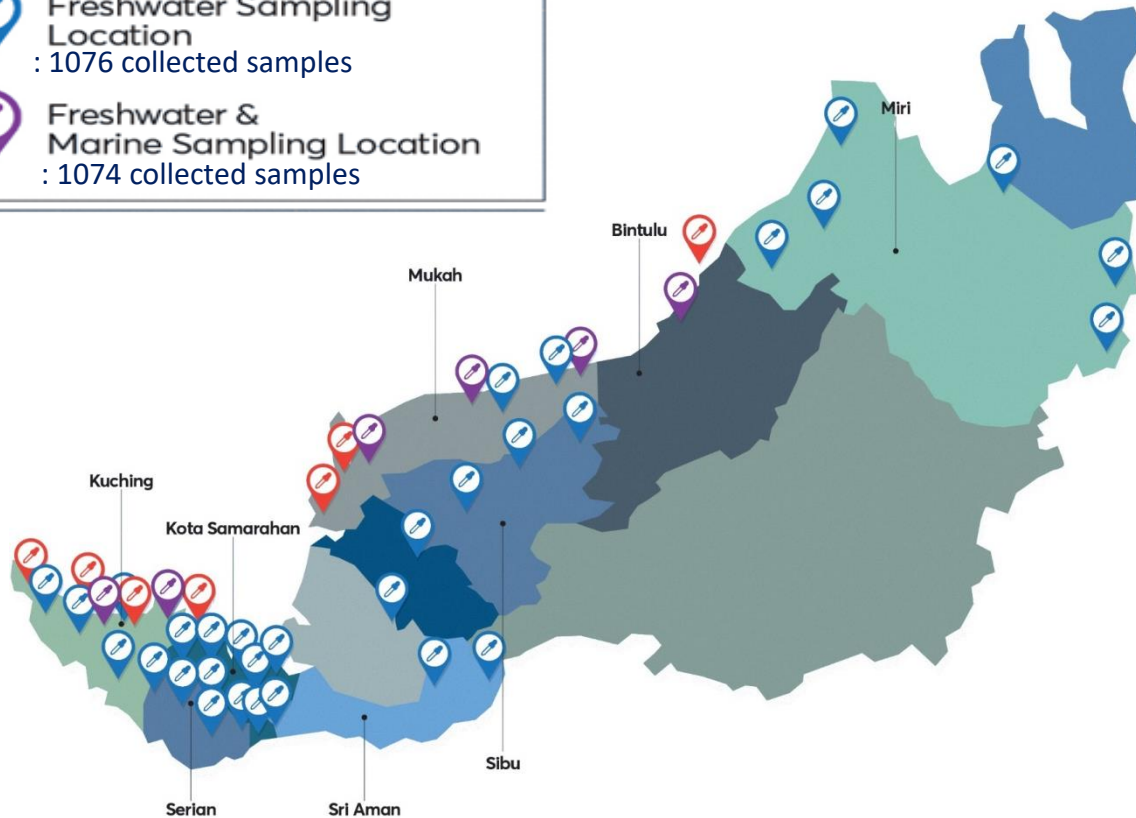
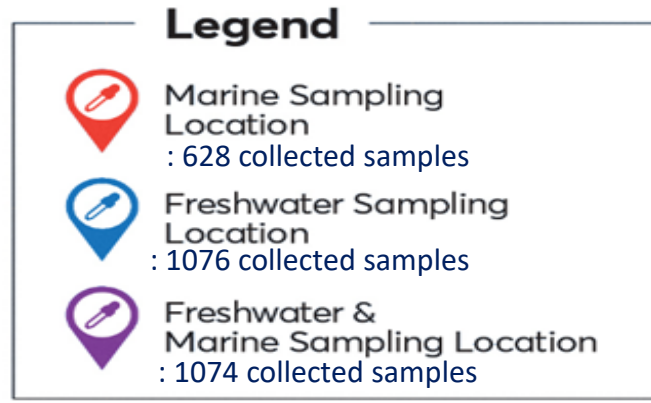
Sarawak
Biodiversity Centre



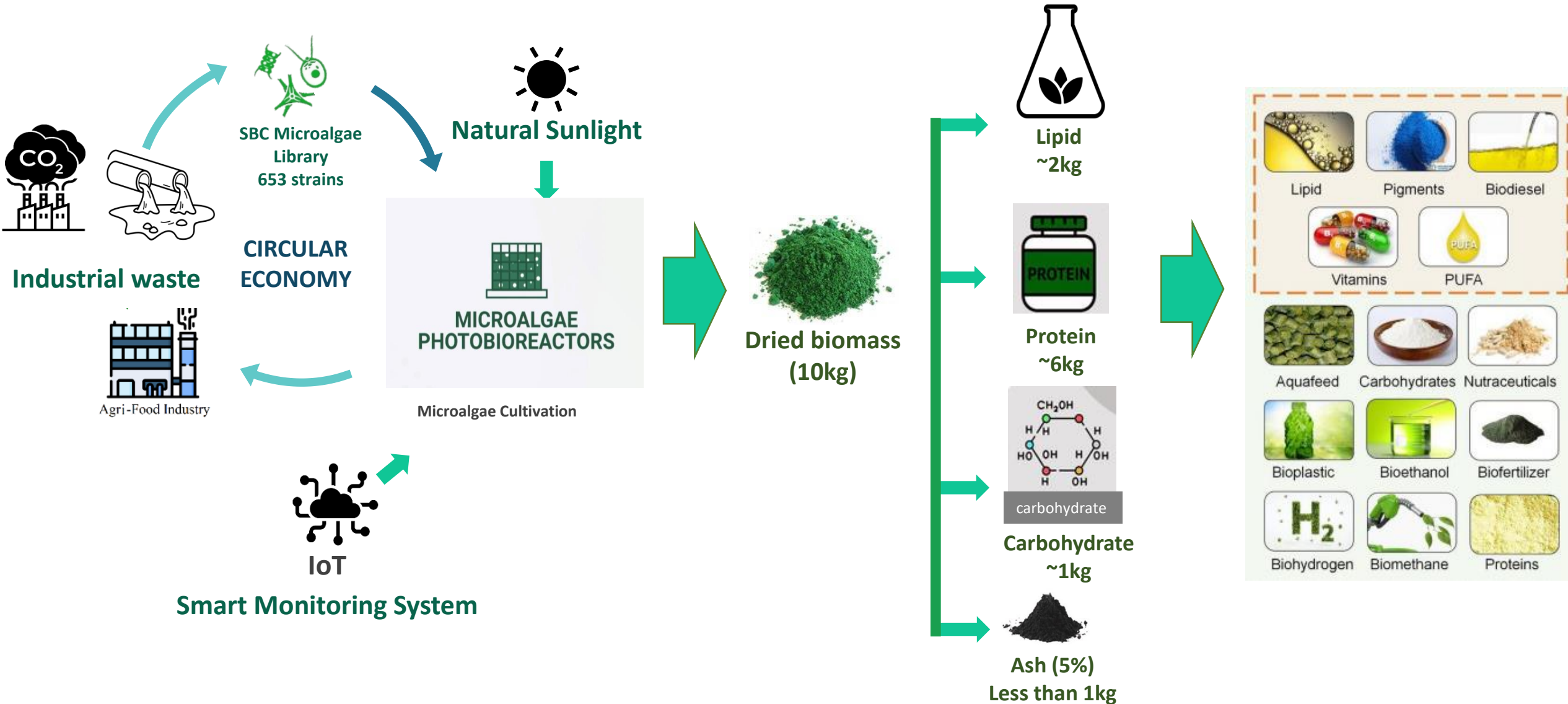
SBC MICROALGAE LIBRARY

Sampling collection

653 living algae library, >75 genera



Microalgae Biorefinery



0.1 Ha Algae Cultivation Facility (SBC)



● The DESIGN FEATURES

MAXIMUM LIGHT PENETRATION

HIGH PRODUCTIVITY ACHIEVED

21 G/M²/DAY

(BENCHMARK 28 G/M²/DAY, US DOE 2018)

● Our STRENGTH

653 STRAINS MICROALGAE LIBRARY

WITH **65%** WITH KNOWN

APPLICATION

Sarawak Microalgae Development and Commercialization Roadmap

CURRENT



MATSURI Consortium:

100 Ha: 7,000 tons biomass per year

2000 Ha @ 140,000 tons of biomass per year

Job creation: up to 5,000

Decarbonisation: 200,000 tons annually



Pilot Scale, 0.1 Ha

Proof of Concept, 5 Ha

Biomass per year: 350 tons

- **1st in Malaysia** to demonstrate the viable use of flue gas to enhance the production of algae on an industrial scale
- **The largest facility of its kind in the world**



Biomass per year: 6 tons

Living collection: 653 Sarawak species of Algae

First of its kind in Southeast Asia

2019

2023

2030

Creating A Sustainable Supply Chain of Microalgae Industry

AIM

Sustainable supply chain from development cultivation to logistic, networking and marketing.
Create new industries and sustainable society based on microalgae.

OUTCOME

2,000 Ha Algae Cultivation Facility in 2025
Production of 140,000 tons/year at cost less than
~USD3/kg



Founder



Supporting Partner



Its all about “Scale”, “Technology” and “Price”

GIZMODO

Exxon Gives Up on Much-Hyped Algae Biofuels

Molly Taft

February 14, 2023 · 3 min read



Photo: Edwin Remsburg / VWPics (AP)

But there are [some significant, long-term challenges](#) that algae presents in bringing it to scale as an energy solution, and as renewable energy like wind and solar have gotten cheaper and cheaper, the prospect of algae as fuel has become less attractive to energy companies hoping for a quick return on investment. Both Shell and BP had [abandoned their efforts by 2012](#), and Chevron [admitted on its website in 2018](#) that its work “to produce second-generation biofuels that are economical at scale without subsidies has not been successful.”

Features April 9, 2019

Algal biofuel: the long road to commercial viability

The green technology sector has fallen out of love with algae as a feedstock for biofuel production, but there is hope yet for algae-derived fuel in the long-term. What are the recent advances that are refining the production processes that could see algal biofuel compete with petroleum in the decades to come?

By Chris Lo



Nearly 15 years later, the green tech world has fallen out of love with algal biofuel. Despite the large sums spent on developing the conversion process, the industry's ambitious production goals – not to mention cost-competitiveness with fossil fuels – remain a distant dream. In terms of cost, major oil price declines in 2008 and 2014 certainly didn't help biofuel competitiveness, but technical issues have also proven a major sticking point. Intractable problems have been encountered in terms of the energy balance of lipid extraction, maintaining suitable growing conditions in open ponds, and the immense volumes of water, CO₂ and fertiliser required to allow the algae to photosynthesise fast enough at large scales.

The cost of algae-based biofuel is still too high

How far can a few drops of algae oil go?

BY NIKITA AMB | PUBLISHED FEB 21, 2022 6:52 PM EST

ENVIRONMENT



The Department of Energy funds projects for growing and testing algae for biofuels, like this raceway pond at the

Professor Dr Stephen Mayfield

Director, California Center for Algae Biotechnology
Co-director, Food & Fuel for the 21st Century

Distinguished Professor
Department of [Molecular Biology](#)
University of California San Diego

Scope of collaboration

- Strain improvement by fusion
- Engineering algae for the production of therapeutic proteins and biofuel
- Bioplastic – algae shoes



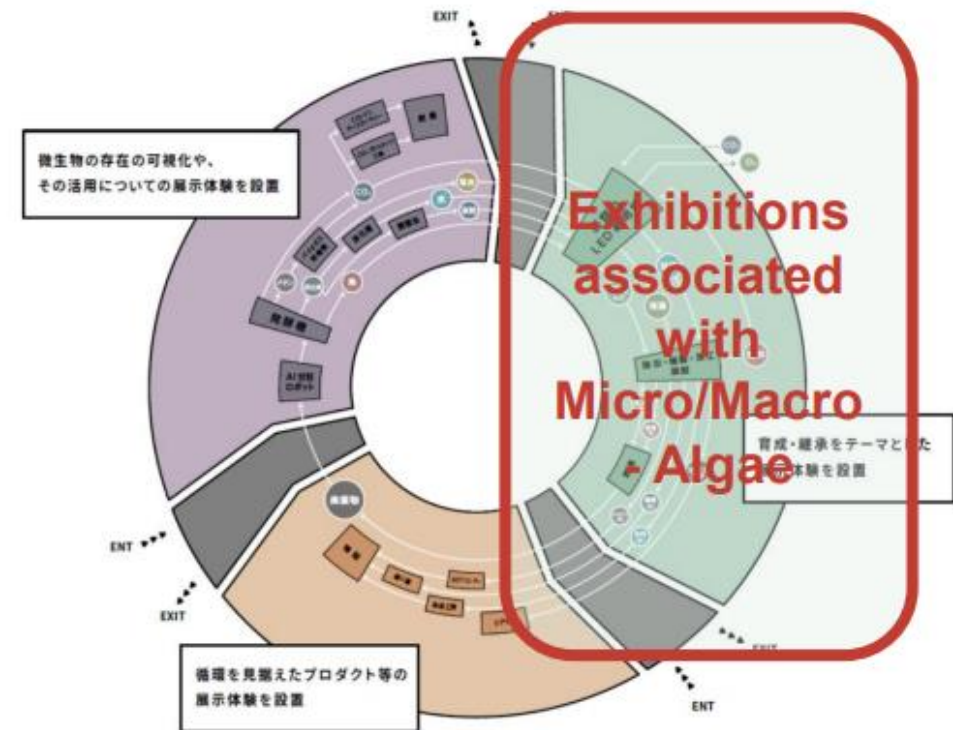
<https://biology.ucsd.edu/research/faculty/smayfield>

World Expo 2025



OSAKA, KANSAI, JAPAN
EXPO
2025

Next world expo will be held from April to October in 2025 at Osaka, Japan. During this period, **28 million visitors** are estimated. In Japan pavilion, exhibitions with the theme of “between lives” will be organized, where exhibitions related to micro/macro-algae will occupy about 1/3 of the entire exhibition.





Thank you.

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[www.facebook.com/
sarawak.biodiversity
centre/](https://www.facebook.com/sarawak.biodiversitycentre/)



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Connecting you to opportunities in Sarawak

- Emily Rolanda Yong | Senior Vice President
- Branch Manager
- UOB Kuching Branch
- June 2023

Private and Confidential

About UOB Group



UOB is committed to building lasting relationships with our customers, through product and market expertise, and our promise to always do what is right.

Founded in August 1935 by a group of Chinese businessmen and Datuk Wee Kheng Chiang, grandfather of the present UOB Group CEO, Mr. Wee Ee Cheong.

Today, UOB Group operates in 19 countries and territories across the world, and is well established in Southeast Asia. UOB is rated among the world’s top banks: ‘Aa1’ by Moody’s and ‘AA-’ by Standard & Poor’s and Fitch Ratings.

With UOB’s deep regional connectivity and strong ecosystem of partners, we are well-placed to support you in your company’s internationalisation journey.

UOB Group Credit Rating	Moody’s Investors Service	Standard & Poor’s	Fitch Ratings
Issue Rating (Senior Unsecured)	Aa1	AA-	AA-
Outlook	Stable	Stable	Negative
Short Term Debt	P-1	A-1+	F1+

*Updated as of April 2023

Subsidiaries Credit Ratings	Malaysia	Indonesia	Thailand	China
Long Term Rating	AAA (RAM)	AAA (Fitch)	AAA (Fitch)	A+ (Fitch) AAA (CCXI)
Outlook	Stable	Stable	Stable	Stable
Short Term Rating	P1 (RAM)	F1+ (Fitch)	F1+ (Fitch)	F1+ (Fitch)

- RAM = Rating Agency Malaysia Berhad
 - CCXI (China Chengxin Int’l Credit Rating Co)
- Click [here](#) to find the latest ratings.

Unrivalled platform in ASEAN

UOB, with our deep roots and wide reach in Southeast Asia, is well placed to help companies understand the opportunities in local markets, develop their entry strategies and navigate the complexities of doing business in the region.



HQ in Singapore

Incorporated in 1935
63 branches



Brunei

Branch set up in 2001
1 branch



Indonesia

Incorporated in 1956
148 branches



Malaysia

Incorporated in 1993
55 branches



Myanmar

Branch set up in 2015
1 branch



Philippines

Branch set up in 1999
1 branch



Thailand

Incorporated in 2005
152 branches



Vietnam

Incorporated in 1995
5 branches

About UOB Malaysia



UOB Malaysia has 55 branches across the country and is the leading foreign bank operating in Malaysia.



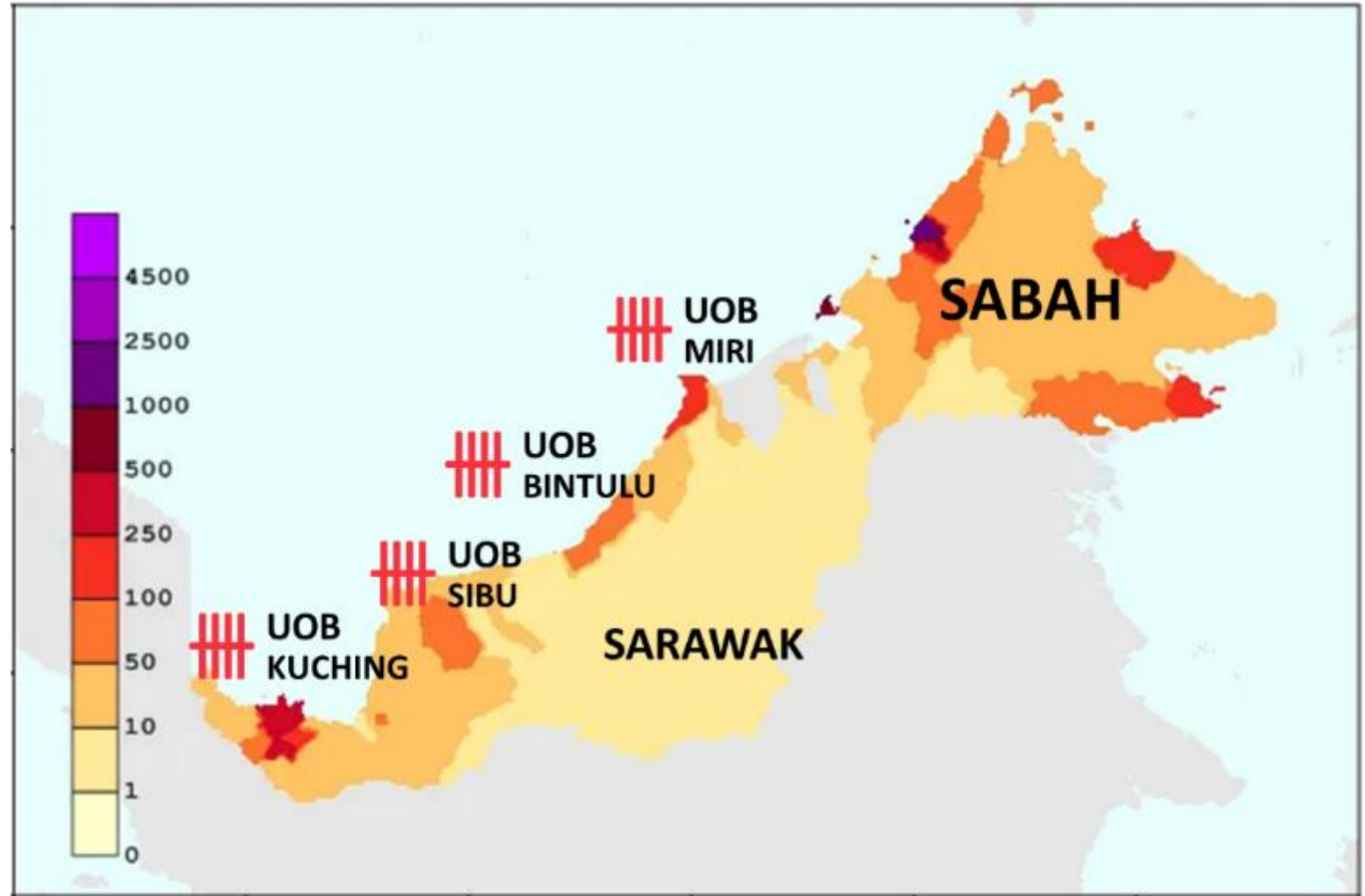
United Overseas Bank (Malaysia) Bhd (UOB Malaysia) was incorporated in 1993 but has had a presence in Malaysia since 1951. UOB Malaysia is rated among the top banks in Malaysia with a long-term 'AAA' rating from Ratings Agency Malaysia. Guided by our rich heritage and values, we have built lasting relationships with our customers and continue to ensure we act in their best interest by delivering solutions that meet their financial goals and suit their lifestyles and preferences. Today, UOB Malaysia has 55 branches across the country and is the leading foreign bank operating in Malaysia.

Drawing on our expertise and understanding of what is unique to ASEAN, and the needs of our customers and businesses, UOB Malaysia offers its retail and commercial customers a broad range of products and solutions that best suit their lifestyles, preferences and business life cycles. These range from personal financial services, corporate and commercial banking, investment banking and treasury services to wealth management and Islamic banking.

UOB's Presence in Sarawak



- UOB Malaysia has branch presence in four major cities that have the highest population density in Sarawak
 - UOB Kuching
 - UOB Sibu
 - UOB Bintulu
 - UOB Miri
- UOB branches in Sarawak are universal branches offering full suite of banking solutions from personal to companies, including conventional financing, trade, and others



UOB Foreign Direct Investment Advisory Unit



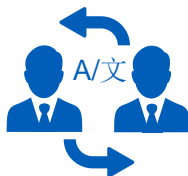
First regional bank to set up a FDI Advisory unit in 2011 to serve as a one-stop service for foreign companies looking to set up regional operations.



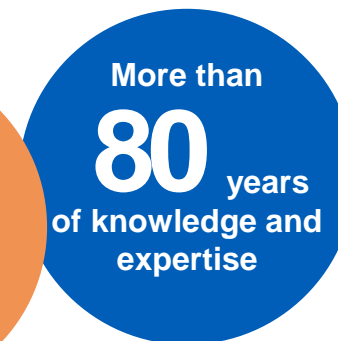
Dedicated team of local FDI Advisers across 10 FDI centres¹, who are able to provide in-market insights to help you unlock the region's potential.



Complete ecosystem of strategic partnership to provide seamless and integrated market entry support.



China Desks set up in Singapore, Indonesia, Malaysia, Thailand and Vietnam to support Chinese enterprises' internationalisation.



10 FDI Centres



Hong Kong SAR



India



Indonesia



Japan



Malaysia



Mainland China



Myanmar



Singapore



Thailand



Vietnam

¹10 FDI Centres: Hong Kong SAR, India, Indonesia, Japan, Mainland China, Malaysia, Myanmar, Singapore, Thailand and Vietnam.

“

The collaboration between MIDA and UOB Malaysia complements our goal to invigorate an effective investment environment in the country. We are excited to have UOB Malaysia on board with us in promoting Malaysia's business competitiveness and accelerate economic growth. Understanding the needs of investors, MIDA seeks to not only promote the development of industrial ecosystems but also to ensure that the enablers are in place to cater to the requirements of businesses, particularly those that are value-added, capital-intensive, knowledge-intensive and can provide quality business and job opportunities to Malaysians. This includes having easy access to the necessary financial services to help investors succeed in emerging markets like Malaysia. We trust that this partnership will result in attracting more quality investments for the country.

”

Datuk Wira Arham Abdul Rahman
Chief Executive Officer
Malaysian Investment Development Authority

Click [here](#) to read the Press Release.



Thank you

Q&A Session

Organised by



In Collaboration with



Thank you

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In Collaboration with



United We Prosper



Sarawak
Biodiversity Centre



RECODA
Regional Corridor Development Authority