

- Tsukuba City, Ibaraki Prefecture, Japan

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ABOUT ISKANDAR MALAYSIA AND IRDA



Iskandar Malaysia in the context of Regional Corridors



- An economic development corridor in the Southern Johor, Malaysia.
- Encompasses an area of 2,217 km², which is 3 times bigger than Singapore.



ISKANDAR MALAYSIA ASCN SMART CITY PROJECTS (2021 – 2024)

management and water cycle



No	Project Name	Project Details	Funded by	Start	End	Remarks
1	Iskandar Malaysia Urban Observatory (IMUO)	(Completed) IMUO system framework and requirements : Technical Assistance from US under USTDA	USTDA	May 2020	Mar 2022	 IMUO continued under Malaysia Government funding Currently, tendering process for hardware & software
		(On going) IMUO Center	Gov of Malaysia	Q42023	Q1 2025	 Under procurement stage of work
2	Smart Integrated Iskandar Malaysia Mobility Management System (SIMMS)	(Completed) – SIMMS framework: Technical Assistance under UK Prosperity Fund	UK Prosperity Fund	Nov 2019	Aug 2022	 Engaging state and local authorities for moving forward strategies
		(On going) Cites Investment Facility project under UN-Habitat (fund pitching)				 Grant assistance or partners with viable business model to implement framework Capacity building: system integration for multi- modal transport
3	Feasibility Study for Smart Water Management and Treatment Plant	 Feasibility Study funded by Government of Malaysia to explore required system, software and hardware for a Smart Water Management, Supply and Demand CHALLENGES TO IMPLEMENTATION Several existing policies need to be looked at and updated comprehensively in line with current needs and challenges such as a holistic water 	Gov of Malaysia	Jan 2020	Aug 2021	 Taken up by State to address holistic water supply and demand needs for development PARTNERSHIPS AND SUPPORT REQUIRED City to City Peer Knowledge sharing: Seeking to benchmark a working solutions of Integrated Urban Water Management system optimizing technology

3

ISKANDAR MALAYSIA SMART CITY PROJECTS (2021 – 2024)



No	Project Name	Project Details	Funded by	Start	End	Way Forward / Support Required
4	Technopreneur Incubators Program (MagicXTips)	 Tech Start – Up development program in collaboration with Enterprise Singapore. Capacity building in building Sustainable Business Proposal and World Class Pitching International Training in Singapore through participation in Singapore Week of Innovation & Technology (SWITCH 2023) 	Esterprise Singapore Collaboration with Enterprise SG	Jun 2023	Dec 2023	 Development of local Start – Up to global stage Promoting Iskandar Malaysia as best destination for Start – Up to start a business.
5	Sg Johor Smart Disaster Risk Management Pre- Feasibility Study & Capacity Building on Smart Health Care	 Pre-Feasibility Study funded by Ministry of Land, Infrastructure and Tourism, Japan under Smart JAMP Knowledge sharing on Smart Health care solutions CHALLENGES TO IMPLEMENTATION Aligning with existing similar programs Identify scoping that is within local jurisdiction 	OKANA MLIT, Japan	Sept 2021	Mar 2022	 Phase 2 combined with RMMT project costing study (#3) to implement Proof of Concept (POC) - project completed Mar 2023 PARTNERSHIPS AND SUPPORT REQUIRED Funding to implement Proof of Concept (POC) project – Data sensor automation and monitoring system
6	Sg Skudai River Management and Monitoring Tool (RMMT) Enhancement	RMMT Enhancement Feasibility study funded by Ministry of Land, Infrastructure and Tourism Japan CHALLENGES TO IMPLEMENTATION Funding on IoT installation as recommended for automated river system monitoring	MLIT, Japan	Sept 2021	Mar 2022	 Phase 2 project costing study to implement Proof of Concept (POC) - project completed Mar 2023 PARTNERSHIPS AND SUPPORT REQUIRED Funding to implement Proof of Concept (POC) project – Data sensor automation and monitoring system

SG SKUDAI RIVER MONITORING AND MANAGEMENT: CREATING AN INTEGRATED DATA COLLECTION AND ANALYTICS PLATFORM (Developed by IRDA)



Sungai Skudai:

River length of 47km

Alignment: Traversing MPKu, MBIP dan MBJB city boundaries

River Function:

Raw water source for Skudai Water Treatment Plant (WTP) Potential recreational use

Isues and challenges: Effects of pollution:

- Floating solid waste
- Water Quality Index class 2 to 4 / 5
- High ammonia content causing Water Treatment Plant stoppages
- Flooding

Using Smart GIS in collecting data: Manual data collection from DOE, DID, UPENJ, SPAN, BAKAJ and Local Authorities IRDA developed the first data analytics platform called RMMT – piloted at Sungai Skudai. RMMT enables multiple agency to share data and through analytics identify pollution high 'hot spots'



SG SKUDAI RIVER MONITORING AND MANAGEMENT PHASE 1: FEASIBILITY STUDY ON ENHANCEMENT OF RMMT (2021-2022) – under Smart JAMP

Skudai River (Main)



SCOPE OF WORK

Funded under Smart JAMP Program

- Scope 1: Understanding Current Situations and Challenges
- Scope 2: Analysis of Feasibility toward Establishment of Monitoring System
- Scope 3: Preparation of Action Plan

FIELD WORK AND ENGAGEMENTS

- Field Survey -in collaboration with local university – Universiti Teknologi Malaysia (UTM)
- Engagement and workshop through online due to Lockdown



Project overall schedule

Phase 1 (F/S) Phase 2 (Prototyping) Phase 3 (Pilot project in the entire river Skudai) Phase 4 (Area expansion) Phase 5 (Nationwide expansion)

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lterryYear	Q1	Q2	Q3	Q4	Q1	Q												
Phase-1: 実施可能性調査 Feasibility Study	_																	
Phase-2: プロトタイピング Prototyping																		
Phase-3: パイロットプロジェクト Pilot Project																		
Phase-4: 地域展開 Area expansion)
Phase-5: 国展開 Nationwide expansion																		9

Average WQI (Field Survey)



Station	WQI	Class	Description
R11	88.65	2	Clean
R10	87.08	2	Clean
R9	73.22	3	Slightly Polluted
RS	72.22	3	Slightly Polluted
R.7	68.89	3	Slightly Polluted
R6	68.05	3	Slightly Polluted
R5	73.69	3	Slightly Polluted
R4	65.81	3	Slightly Polluted
R3	78.21	2	Slightly Polluted
R2	65.76	3	Slightly Polluted
R1	60,47	3	Slightly Polluted
RT13	84.16	2	Clean
RT12	48.78	4	Polluted
RT11	48.08	4	Polluted
RT10	67.79	3	Slightly Polluted
RT9	69.55	3	Slightly Polluted
RTS	42.51	4	Polluted
RT7	52.79	3	Polluted
RT6	51.60	4	Polluted
RT5	83.67	2	Clean
RT4	78.48	2	Slightly Polluted
RT3	49.61	4	Polluted
RT2	66.28	3	Slightly Polluted
RT1	59.31	3	Slightly Polluted
IR5	77.08	2	Slightly Polluted
fR4	61.60	3	Slightly Polluted
IR3	56.08	3	Polluted
fR2	55.85	3	Polluted
fR1	61.12	3	Slightly Polluted
IRT1	57.01	3	Polluted

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	事前調査計画集務 Preparataion and study														
	機材調達 Equipment procurement										-				
	システム構築 System establishment														-
Phase 2	パイロットプロジェクト予算取り Fund raising for pilot project				_										
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	Study/Preparation/Analysis		1		1			1							
Prototyping	仕程最終化 Finalizing specifications	_			_										Г
	調達計画·再積算·契約書案 Procurement planning / Cost estimate / Contract document preparation	_													t
	オンボームウスナ始度用 Land acruisition for sensor							-	-				-	<u> </u>	+
	house installation								1	1	I			1	
	パイロットブロジェクト計画・提案書支援 Planning		-				-		-	-	-			<u> </u>	-
	and preparation of proposal for fund raising for pilot		1			-								1	
	project	_													
	業者契約 Conclusion of contract														
	機材調達監理 Supervision of equipment procurement														\Box
	就運転監理 Supervision of trial operation and initial training												-		Γ
	検証業務 Verification of RMMT														
	センサー調達業務 Sensor procurement works														Γ
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	税間等クリアランス Oustoms clearance and necessary procedures.														
	内陸輸送 Inland transportation to the site														
	センサーハウス等標行工事 Site installation work including house construction														T
	現地受入検収、調整・試運転・初期操作指導 Ste acceptance test, trial operation, initial training												-		T
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	System establishment works														
	契約締結 Conclusion of contract							1							T_
	システム設計・開発・テスト Design, development and test (
	現地受入テスト Site acceptance test														1
	保守運用 Operation and maintenance													1	1
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SG SKUDAI RIVER MONITORING AND MANAGEMENT PHASE 2: ENHANCEMENT AND AUTOMATION IMPLEMENTATION PREPARATORY STUDY (2022-2023)

ISKANDAR REGIONAL DEVELOPMENT AUTHORITY

SCOPE OF WORK

Funded under Smart JAMP Program

- Scope 1: Preparation of specifications and tender documents
- Scope 2: Detailed plan formulation and preparation for proof of concept
- Scope 3: River disaster reduction study

ENGAGEMENT

- Various on-site and online engagements with agencies and authorities from 2022-2023 by consultants.
- 06/03/2023 MLIT and PCKK visit to IRDA for Final Report meeting (and site visit at the Singapore-Malaysia RTS bridge construction)





DELIVERABLE OUTPUT: ESTIMATED COST REQUIRED

- Pilot project -10 locations for 2 Type A sensor and 8 Type B sensors
- 2 have submitted quotations.
- Most value-for-money quotation is valued at USD819,522
- Benchmarking river disaster reduction program in Japan
- Prior to full project implementation, prototyping (Proof of Concept) is proposed to be done at 2 sites with 1 Type A and 1 Type B sensor.

No	Item		Adopted Price		Supplier A					
NU.	nem	Total (USD)	Total (MYR)	Total (JPY)	Total (USD)	Total (MYR)	Total (JPY)			
1	Equipment procurement	454,800	2,092,959	64,749,876	454,800	2,092,959	64,749,876			
1-1	Sensor A Equipment	157,200	723,424	22,380,564	157,200	723,424	22,380,564			
1-2	Sensor B Equipment	297,600	1,369,535	42,369,312	297,600	1,369,535	42,369,312			
2	Installation	282,600	1,300,506	40,233,762	282,600	1,300,506	40,233,762			
2-1	Sensor A	84,200	387,483	11,987,554	84,200	387,483	11,987,554			
2-2	Sensor B	198,400	913,023	28,246,208	198,400	913,023	28,246,208			
3	General adiministrative expenses (3% of (No.1+No.2))	22,122	101,804	3,149,509	22,122	101,804	3,149,509			
4	Adjustment and commissioning costs	-	-	-	-	-	-			
5	Maintenance and calibration	60,000	276,116	8,542,200	60,000	276,116	8,542,200			
	Grand total	819,522	3,771,385	116,675,347	819,522	3,771,385	116,675,347			

Equipment procurement and Installation are estimated as 2 locations for Type A and 8 locations for Type B General adiministrative expenses: 3% of (Equipment purocurement cost-Installation cost) Supplier C has provided the price of only sensors (excluding BOD & COD)





War Forward

- To request funding to implement the POC from the Malaysian Government or potentially source through international collaboration
- To find potential collaboration with private sectors as part of their land's river reserve rejuvenation program.

PROJECT HIGHLIGHTS : ACADEMIA AND INDUSTRY COLLABORATION



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