

The background features a dark blue gradient with faint, light blue technical diagrams. On the left, a large circular scale with numerical markings from 140 to 260 is visible. Several circular diagrams with arrows and dashed lines are scattered across the page, suggesting a technical or engineering context.

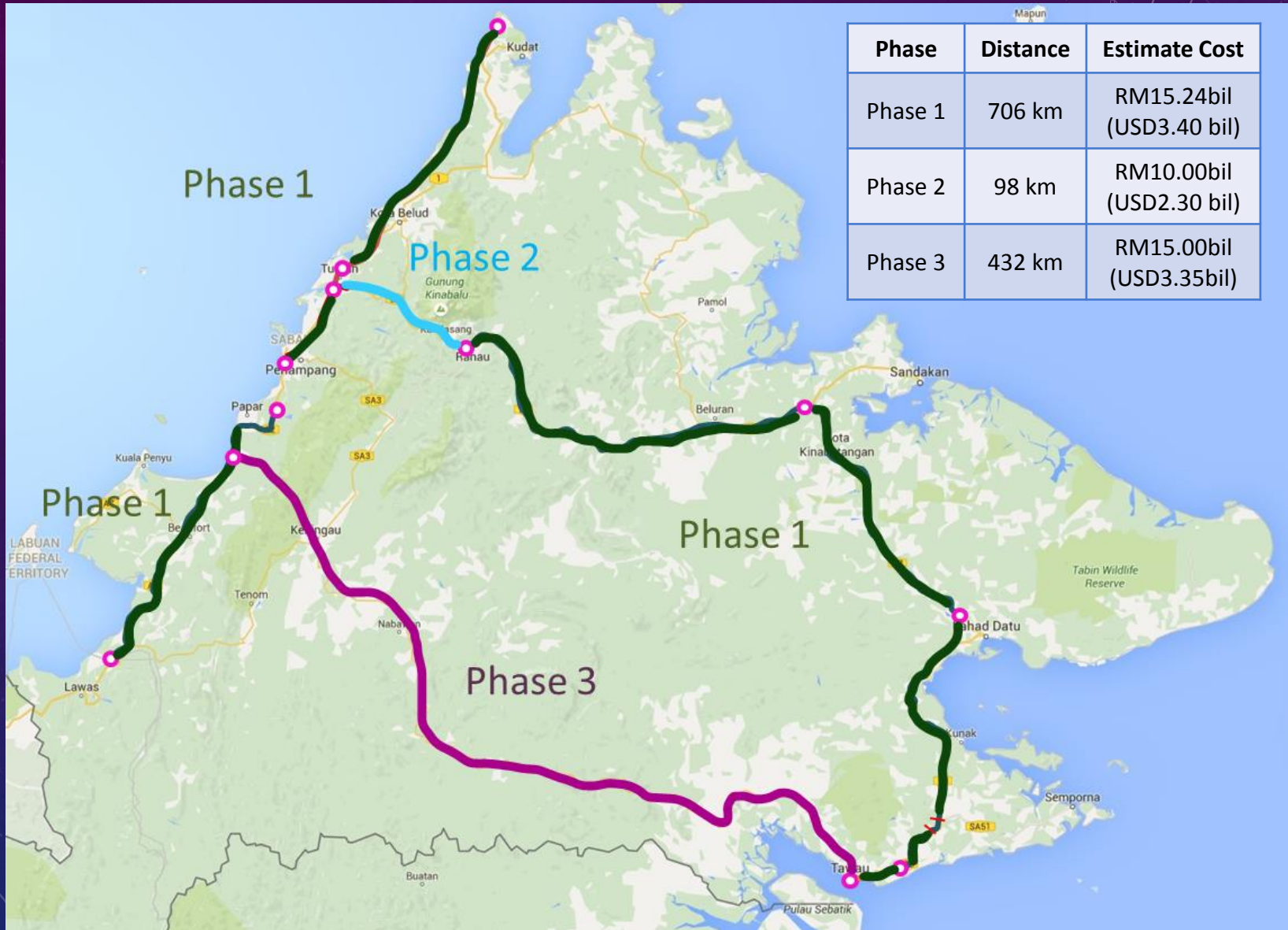
# THE IMPLEMENTATION OF DIGITALIZATION IN PAN BORNEO HIGHWAY SABAH (PBHS) PROJECT

# PAN BORNEO HIGHWAY SABAH, MALAYSIA.

## INTRODUCTION:

- Pan Borneo Highway Sabah (PBHS) is a multi-billion road infrastructure development project funded by the Malaysian Government to enhance road connectivity in the state of Sabah.
- PBHS will be implemented in three (3) phases totalling 1,236 kilometre.
- The scope of works:
  - Upgrading existing roads into 4-lane dual carriageway highway
  - New construction of 2-lane single carriage way
  - New construction of bridges
  - New construction of interchange

# PAN BORNEO HIGHWAY SABAH PROJECT



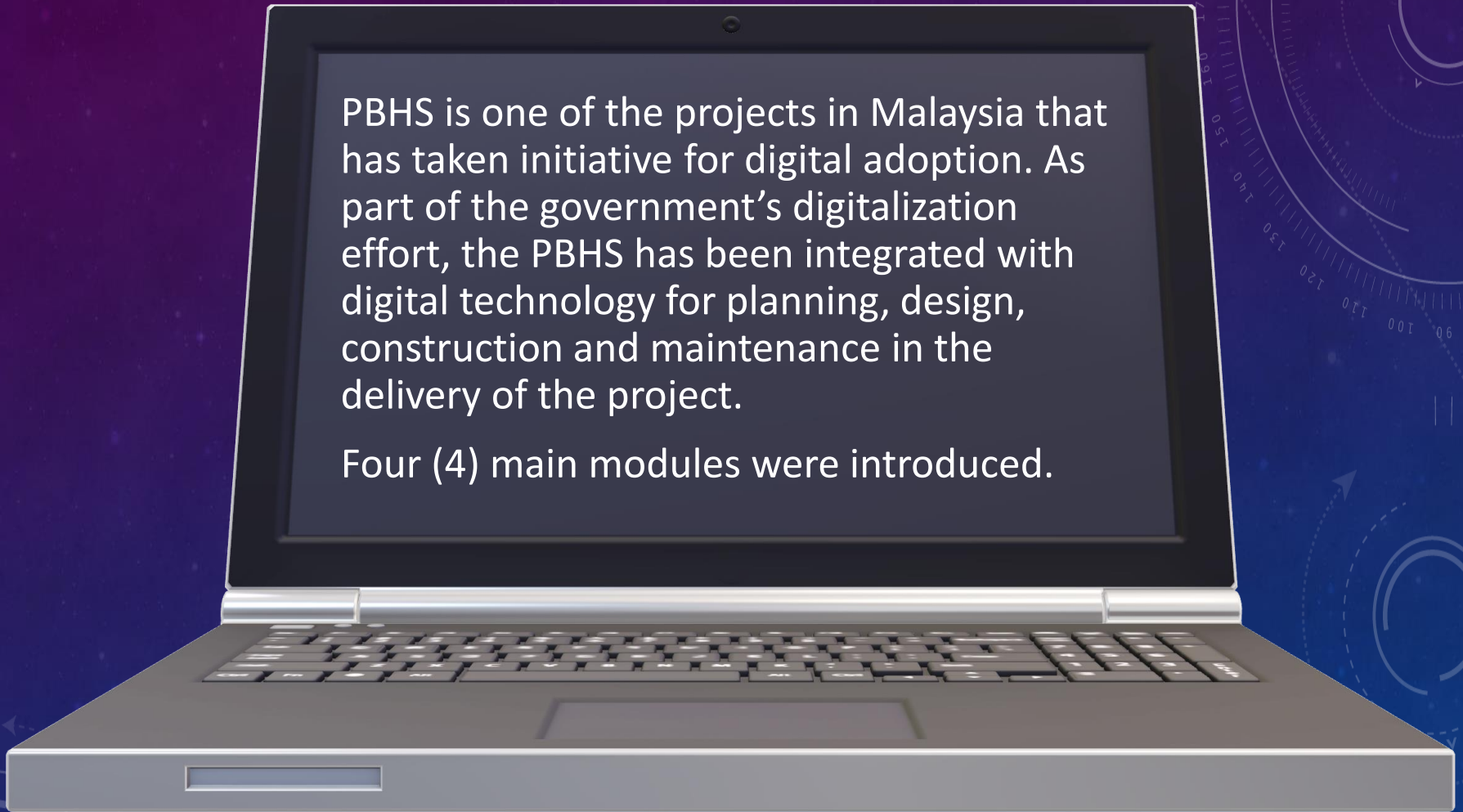
# PAN BORNEO HIGHWAY SABAH PROJECT



# PBHS AND DIGITALIZATION

PBHS is one of the projects in Malaysia that has taken initiative for digital adoption. As part of the government's digitalization effort, the PBHS has been integrated with digital technology for planning, design, construction and maintenance in the delivery of the project.

Four (4) main modules were introduced.



# PBHS AND DIGITALIZATION TRANSFORMATION



Building Information Modelling  
(BIM)

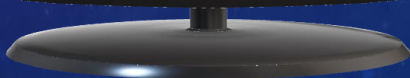
Development and management of the road design system through the use of three-dimensional (3D) images and smart design information



Development and management an online system for managing project's deliverables by planning, organizing, and managing its different required aspects.



Project Management System  
(PMS)

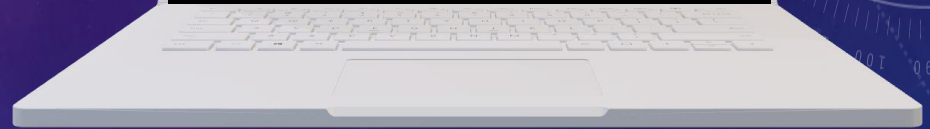


# PBHS AND DIGITALIZATION TRANSFORMATION



## Geographical Information System (GIS)

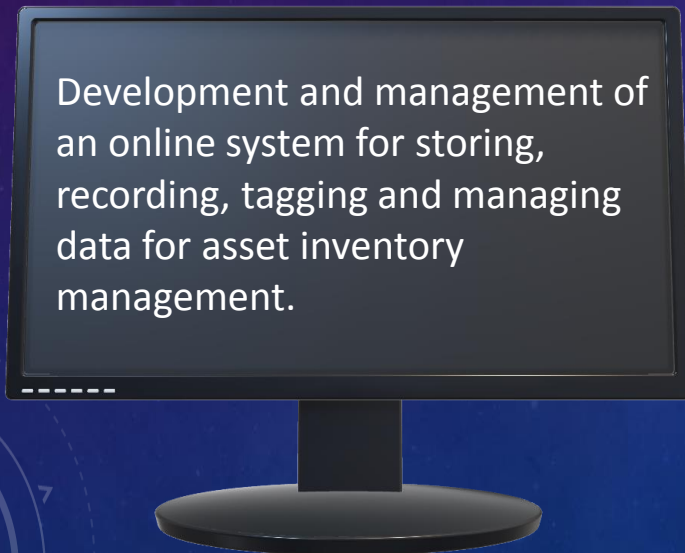
Development and management of computer system (hardware & software) for capturing, storing, checking and displaying data related to position based on geographic data and producing the Highway Information Modelling (HIM)



Development and management of an online system for storing, recording, tagging and managing data for asset inventory management.

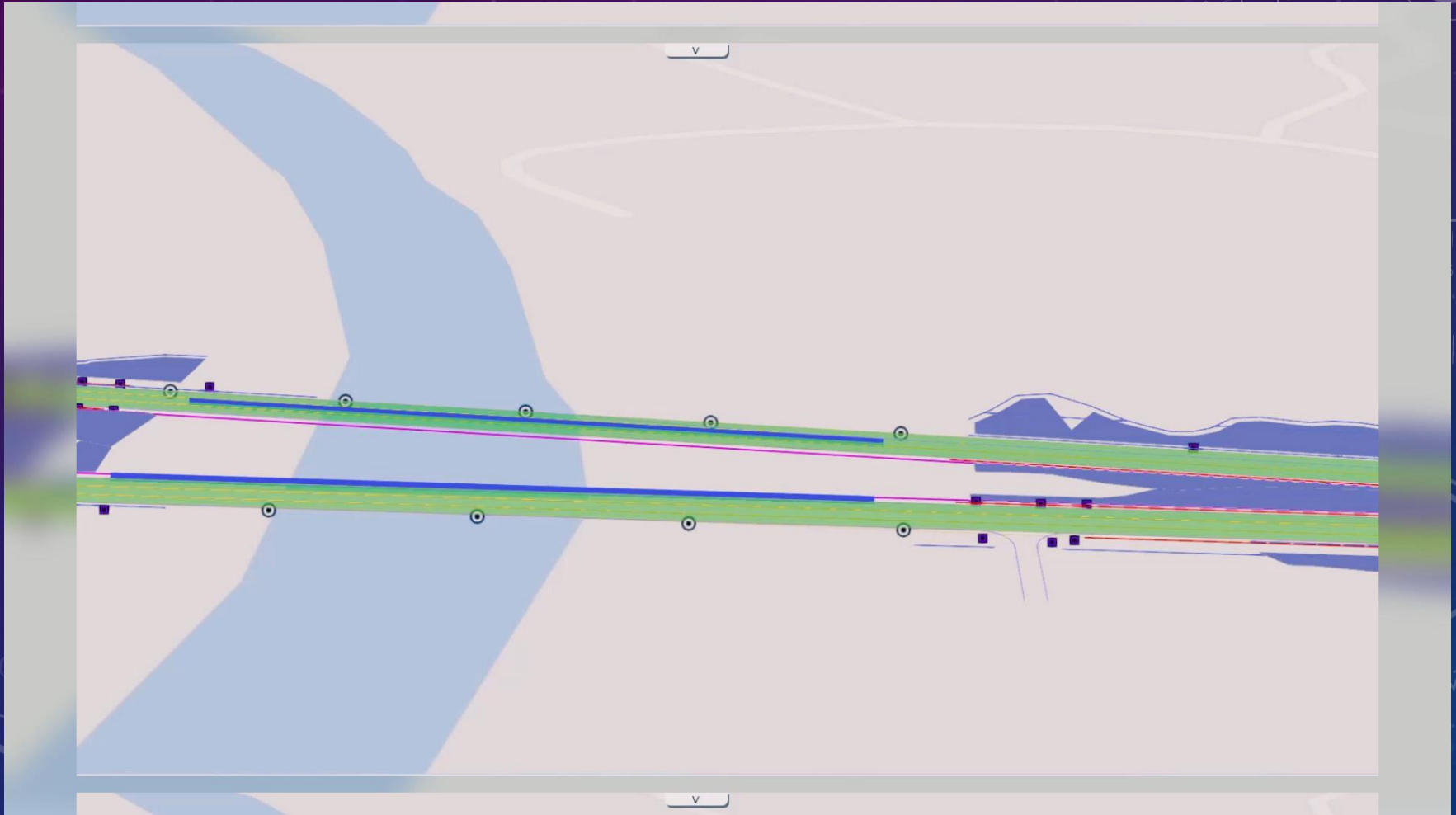


## Asset Management System (AMS)



# BUILDING INFORMATION MODELLING (BIM)

*DEVELOPMENT AND MANAGEMENT OF THE ROAD DESIGN SYSTEM THROUGH THE USE OF THREE-DIMENSIONAL (3D) IMAGES AND SMART DESIGN INFORMATION.*





# THE DIGITALIZED QUANTITY SURVEYOR



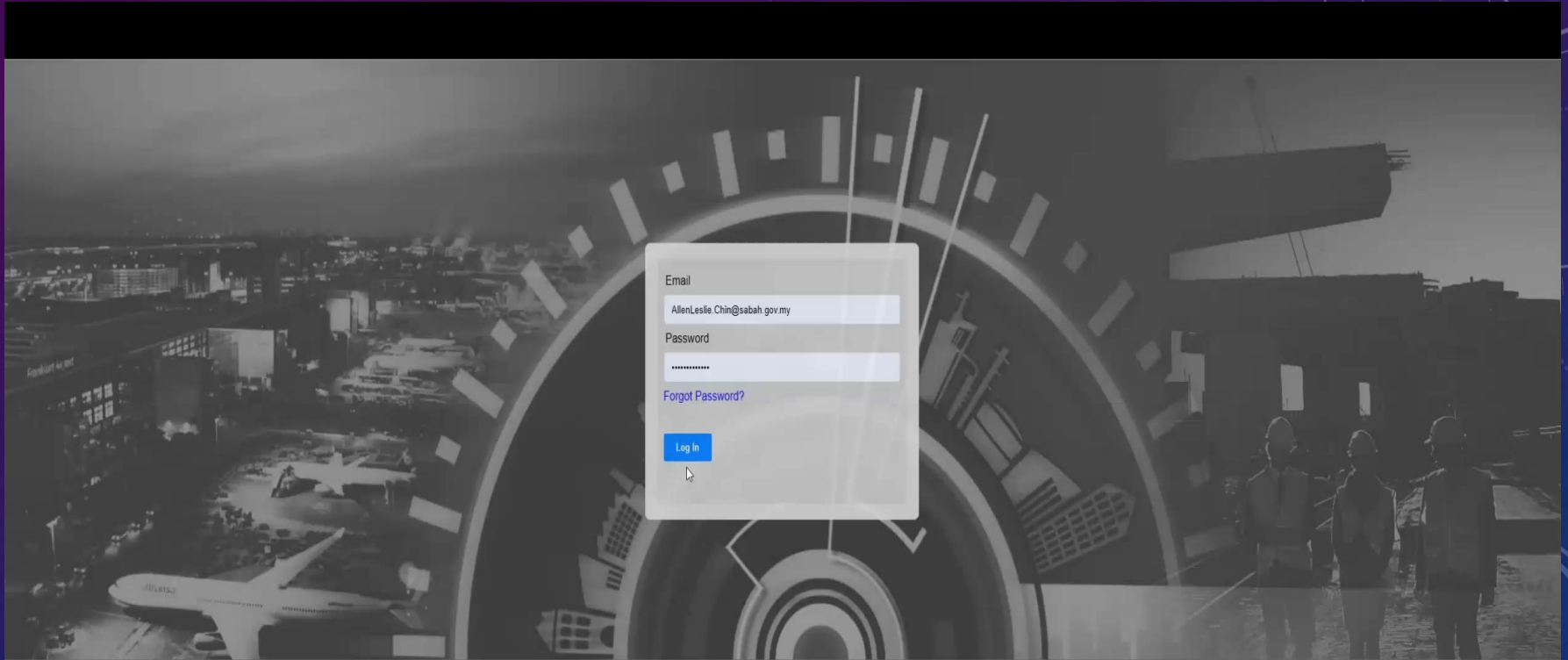
## AND BIM



Advantages	Disadvantages
Provide accurate measurements	Requires new skills and competencies in using BIM
Provide efficiency and quality of cost estimation	Require to keep up with the latest trends, technologies and best practices.
Reduce errors	Long term investment in software and computer resources
Enhance collaboration with other stakeholder based on one platform.	
Optimize resources (time, labour)	
Reduce workload and increase in accuracy	

# PROJECT MANAGEMENT SYSTEM (PMS)

DEVELOPMENT AND MANAGEMENT AN ONLINE SYSTEM FOR MANAGING PROJECT'S DELIVERABLES BY PLANNING, ORGANIZING, AND MANAGING ITS DIFFERENT REQUIRED ASPECTS.



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📍 Suite 9-03, Level 9 Wisma E & C,  
Bukit Damansara, Kuala Lumpur

📞 +603 2011 6559

✉️ [contact.us@reverenconsulting.com](mailto:contact.us@reverenconsulting.com)

#### About the company

Delivering measurable business results through an unique value proposition of engineering and end solutions across Infrastructure Life Cycle Solutions, Enterprise Applications and Enterprise Security.



# THE DIGITALIZED QUANTITY SURVEYOR



## AND PMS



Advantages	Disadvantages
Access to information at anytime via smart devices and internet	Data loss or theft
Keep track of budgets ie payments, variations, procurement	Reliance of technology: down time, network downtime
Keep track of timelines ie Date for Completion, EOT, payment schedule, validity of insurances.	Data leakage
Enhance collaboration with other stakeholder based on one platform.	Data protection
Keep track of project's progress	Overall security and safety
Improved process standardization by customized workflows and procedures.	

# DIGITALIZATION TRANSFORMATION

## WHAT'S THE ISSUE!

- Although the project is adopting digital technology such as BIM, PMS, etc. Nonetheless, there are few draw backs which still prevent the adoption of technology.
  - Fear – starting the change process with humans, not technology.
    - Some are just happy doing work the same way – resistance to change.
    - Raising awareness on the benefit of digitalization
  - Lack of Expertise – need to have skilled employees who can carry on the process
    - ie setting up BIM services ie no specific department/individual to ensure implementation
  - Budget Constraints – “Its not cheap”
    - Initial cost to provide the infrastructure ie better computers, better software
    - Provide training to employees

# THE DIGITALIZED WORLD

- Digitalization is coming – with or without you!
  - A - Adopt and embrace the change (digitalization)
  - Q - Quickly grab the opportunity – time is money
  - S -Securing knowledge and technology
  - A -Assuring productivity and success!

AQSA

The background is a dark blue gradient with faint, light blue technical diagrams and circular patterns. On the right side, there are several concentric circles and arcs, some with numerical labels like 100, 120, 140, 160, 170, 180, 190, and 200. There are also dashed lines and arrows indicating directions or paths. The overall aesthetic is clean and modern, suggesting a technical or scientific theme.

THANK YOU!