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ONLINE PLATFORM

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ORGANISED BY

HIGHWAY AND TRANSPORTATION ENGINEERINF TECHNICAL DIVISION (HTETD)

WEBINAR TALK ON "ENHANCING EXPRESSWAYS OPERATION AND MAINTENANCE (O&M) EFFICIENCY THROUGH INNOVATION"

SPEAKER PROFILE



DR. NORBAZLAN MOHD YUSOF Head, Innovation & Centre of Excellence,

Dr. Norbazlan holds the post as Head of Innovation & Centre of Excellence in PLUS Berhad where he is responsible for leading technology exploration and solution findings for technical problems in PLUS. He has completed more than twenty (20) research collaboration projects in multiple disciplines with universities such as UTM, UM, UPM, UTHM, UTEM and UiTM as well as publishing various manuscripts in science

He received several awards on behalf of PLUS Berhad among others are Gold Award from MTE 2021 for development of Cone Laying and Collecting Machine, Bronze Award from MTE 2020 for development of Emergency Danger Signal Detector system for Highway Workers Safety. Anugerah Ketua Pengarah MPC 2018 for overall champion under private sector category, received recognition from UTEM in 2018 as notable University-Industry Partnership, received Asia Geospatial Excellence Award for TEMAN application in 2015 and received High Impact Community Award from UPM in 2016 and 2017. In 2013, he was appointed by National Occupational Skill Standards (NOSS) as an expert panel under the Skills Development Department, the Ministry of Human Resources.

Dr. Norbazlan was appointed as Corporate Fellow by Geotropika and Institute for Smart Infrastructure & Innovative Construction (ISIIC), Faculty of Civil Engineering, UTM and appointed as Industry Advisory Panel for Master Science Remote Sensing by Faculty of Built Environment & Surveying, UTM in 2021. In 2020, he was appointed as Associate Research Fellow Industry by Faculty of Mechanical Engineering, UTeM. In 2016, he was appointed as a committee member of the master in Remote Sensing and GIS program by School of Engineering, University Putra Malaysia. He specializes in Remote Sensing, GIS application, and soft computing techniques with 25 years of experience in natural hazard including landslide detection, susceptibility, hazard, vulnerability, assessment, and risk using bivariate and multi bivariate statistical base analysis. He received his Bachelor Degree Honours from the University of East London in the United Kingdom and received both Master degree in Remote Sensing and Doctor of Engineering from Universiti Putra Malaysia.

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SYNOPSIS

PLUS, has been exploring and adopting the use of latest technology for a long time and yet starting from 2019 PLUS has started to focus on innovative ideas that can be applied to help streamline the operation and maintenance work at PLUS. To make this effort a success, PLUS has collaborated with various local companies and universities to develop the idea, including the use of drones in data acquisition for landslide analysis and slope monitoring work as well as concrete structure analysis work.

Drones as we know are very useful as they possess the ability to reach the most remote areas without a pilot. This ability has made drones a worldwide phenomenon, and they are now more popular than ever before. In PLUS, Drone is in service since 2019 where management has decided to use drones in maintenance and operation activities.

The use of AI technology for problem solving is not new but has been widely used in recent times. From driverless cars to virtual doctors, artificial intelligence (AI) is transforming the way we live, work, travel, and do business in the 21st century. PwC estimates that AI could add as much as \$15.7 trillion to the global economy by 2030.

Without exception, PLUS has begun to step in the use of AI technology since the beginning of 2012 where there are several analysis models that have been developed using the basics of AI technology, that is machine learning. After several years and several models successfully developed, PLUS has boldly taken a step forward to continue exploring AI technology for the use of PLUS.

In this session, Dr Norbazlan will share three (3) innovative approaches that use drone and AI in dealing with problem statements in PLUS and they are:

- Development Of Rock Slope Prediction Model Using Artificial Neural Network
- Structural Health Monitoring Modelling of Bridge Structure Using Acoustic Emission Technique
- Design and Development of Low-Cost Solution and Telemetry IoT for Drone Docking System