MIMOS Structural Health Monitoring (Mi-Structure)

A structural health monitoring system that enables integration with off-the-shelf or custom sensor wired or wireless communication combined with near real-time structural Damage Level Analytics (DLA) assessment. The system monitors structural condition after earthquake impact. Mi-Structure can also be integrated with available asset management systems through API to provide DLA assessments.

Overview

MIMOS Mi-Structure is a structural health monitoring (SHM) system that consists of a web-based dashboard with damage-level analytics (DLA) and wireless mesh gateway that acts as a SHM platform accelerated via IoT. Off-the-shelf and custom SHM wireless sensors can be connected to Mi-Structure and the data is analysed to provide current health status of the monitored structure for asset monitoring management to proceed with required action. The integrated DLA assessment produces four structural damage levels where level 1 is safe to be occupied and level 4 is unfit to be occupied.

Technology Summary

Mi-Structure

A structural health monitoring system that consists of a web-based dashboard with damage-level analytics.
Industries: Oil & Gas, Manufacturing, strategic asset, Government

Features

- Real-time structural health analytics
- Flexible sensor integration
- Internet of Things (IoT) ecosystem
- Flexible dashboard
- Continuous monitoring

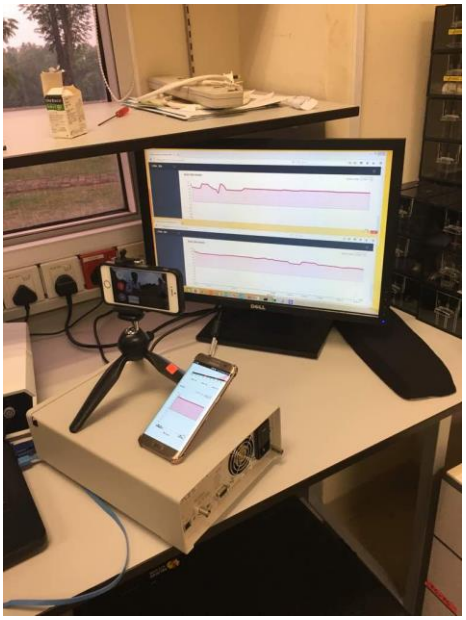
Technology Benefits

- Fast recovery on strategic asset

Features

Mi-Structure comprises the following features:

- **Real-Time Structural Health Analytics**
  Mi-Structure provides DLA assessment after earthquake impact to gauge a structure's safety conditions. Fast result is vital in order to manage the impacted structure and proceed with a suitable recovery process.
- **Flexible Sensor Integration**
  Using Mi-Structure with available and custom sensors will enable fast system implementation on the current asset monitoring system.
- **Internet of Things (IoT) Ecosystem**
  Multiple wirelessly (mesh) connected sensors enable mass sensor deployment to support critical structure monitoring.
- **Flexible Dashboard**
  Mi-Structure dashboard can be customised to suit any asset monitoring system.
- **Continuous Monitoring**
  Every structure has implemented safety requirement advised by Jabatan Kerja raya (JKR), Mi-Structure can further support the requirement for structure safety by providing 24/7 structural health monitoring.



MIMOS Mi-Structure in testing

Technology Benefits

The main impacts of Mi-Structure are:

- **Fast Recovery of Strategic Assets**
  Assessment after effect of earthquake is vital for strategic structures such s power line and Oil & Gas to proceed with recovery measurement to further reduce the impact on people and the environment.
- **Custom System Integration**
  Mi-Structure's custom system integration enables available structure monitoring system to be integrated to enhance the current system.

MIMOS Mi-Structure sensor

System Specification

Mi-Structure	
Hardware Specifications	
Sensor	3-axis acceleration sensors
Power	DC 5V jack
Backup power	5000 mAH Lithium battery (36-hour operation)
Connectivity	802.11 b/g 2.5GHz

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