

# Introduction to M-ROADS

(MIROS Road Accident Analysis  
&  
Database System)

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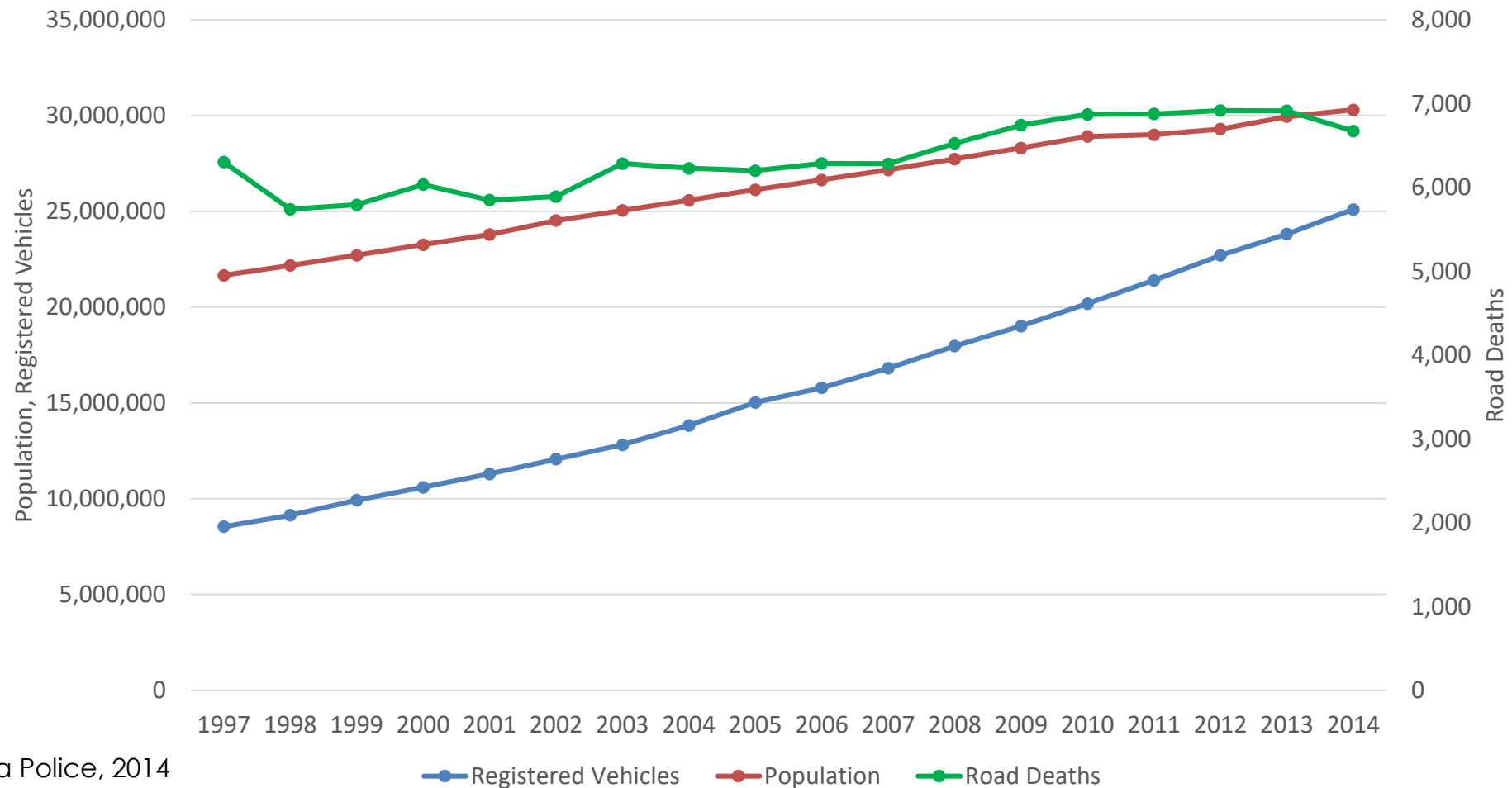
Data Intelligence & Traffic Exposure Unit  
Road Safety Engineering & Environment Research Center  
Malaysian Institute of Road Safety Research (MIROS)

# Global Road Safety Scenario



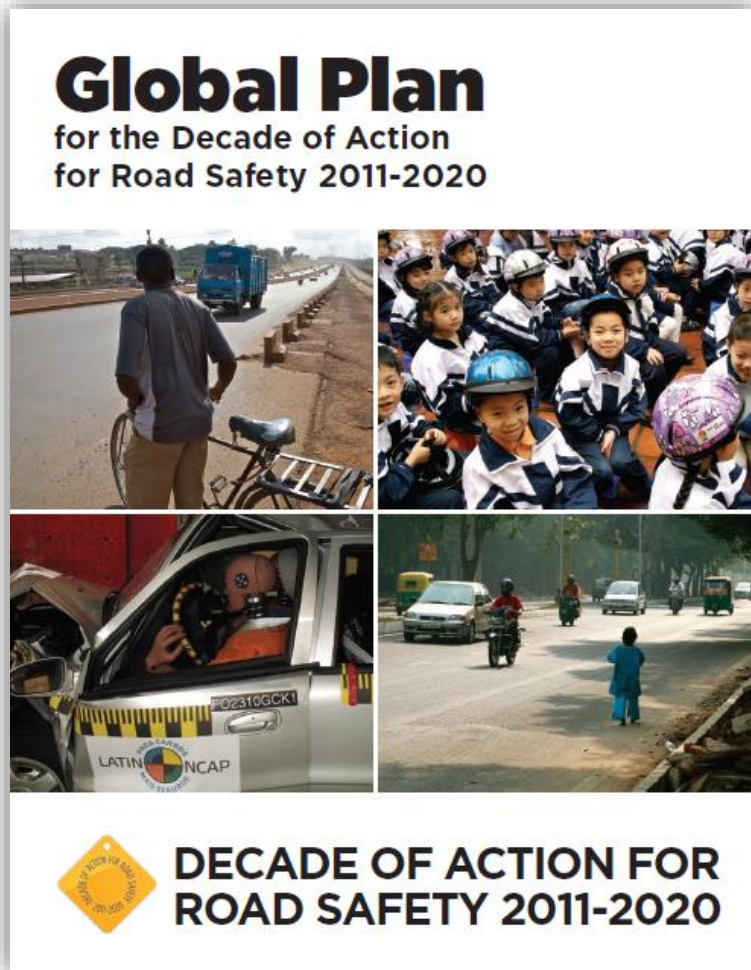
- 1.24m people died on the road due to road crashes every year.
- 92% of the fatalities are from low and middle income country.

# Malaysia Road Safety Situation



Source: Royal Malaysia Police, 2014

# Global Plan for the Decade of Action for Road Safety 2011 - 2020



Source: WHO

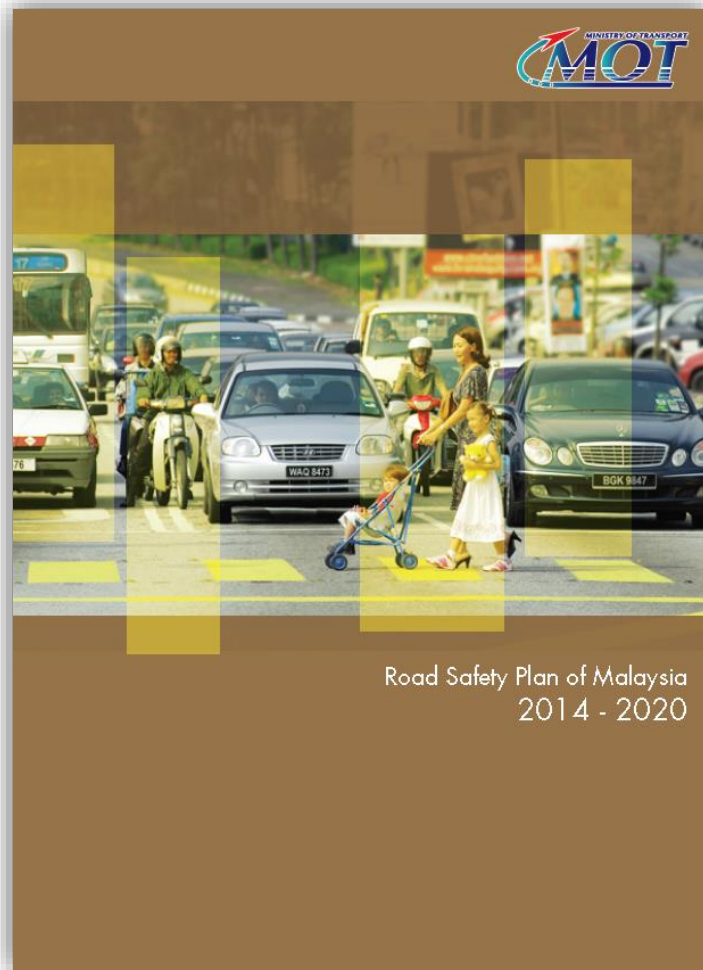
- The overall goal of the Decade will be to stabilize and then reduce the forecast level of road traffic fatalities around the world by 2020
- setting an ambitious yet feasible target for reduction of road fatalities by 2020 by building on the existing frameworks of regional casualty targets
- monitoring progress and performance on a number of predefined indicators at the national, regional and global levels

## **Activity 6: Establish and support data systems for on-going monitoring and evaluation**

to include a number of process and outcome measures, including:

- establishing and supporting national and local systems to measure and monitor road traffic deaths, injuries and crashes;
- establishing and supporting national and local systems to measure and monitor exposure to road traffic injuries

# Road Safety Plan of Malaysia 2014 - 2020



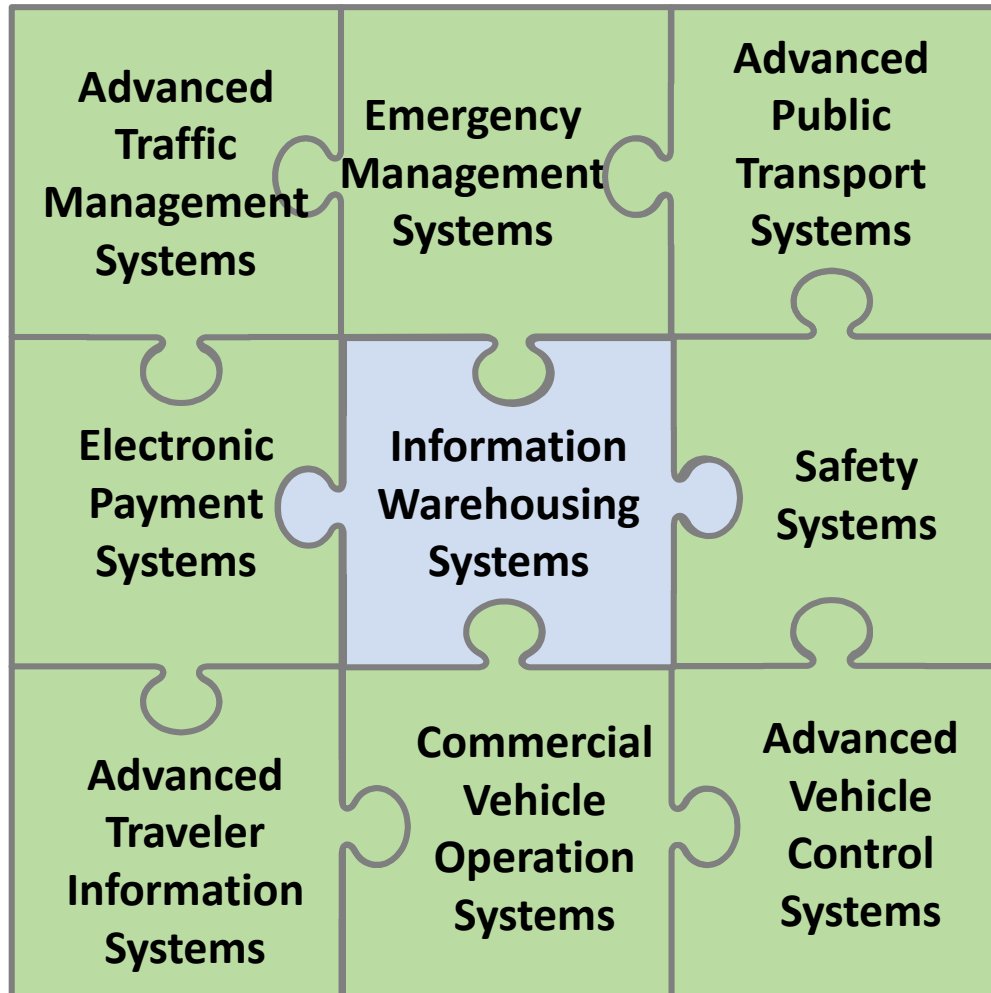
Source: Ministry of Transport Malaysia

Strategic Pillar 1:  
Road Safety  
Management

Road Safety Database  
Management Center

Data is a vital assets in monitoring the effectiveness of road safety advocation. Thus, a road safety database for overall information management will be established. The information will be collected and disseminate to relevant parties to help them to formulate policy and intervention. The information includes road crash, death, injury and insurance claim.

# Malaysian ITS Architecture



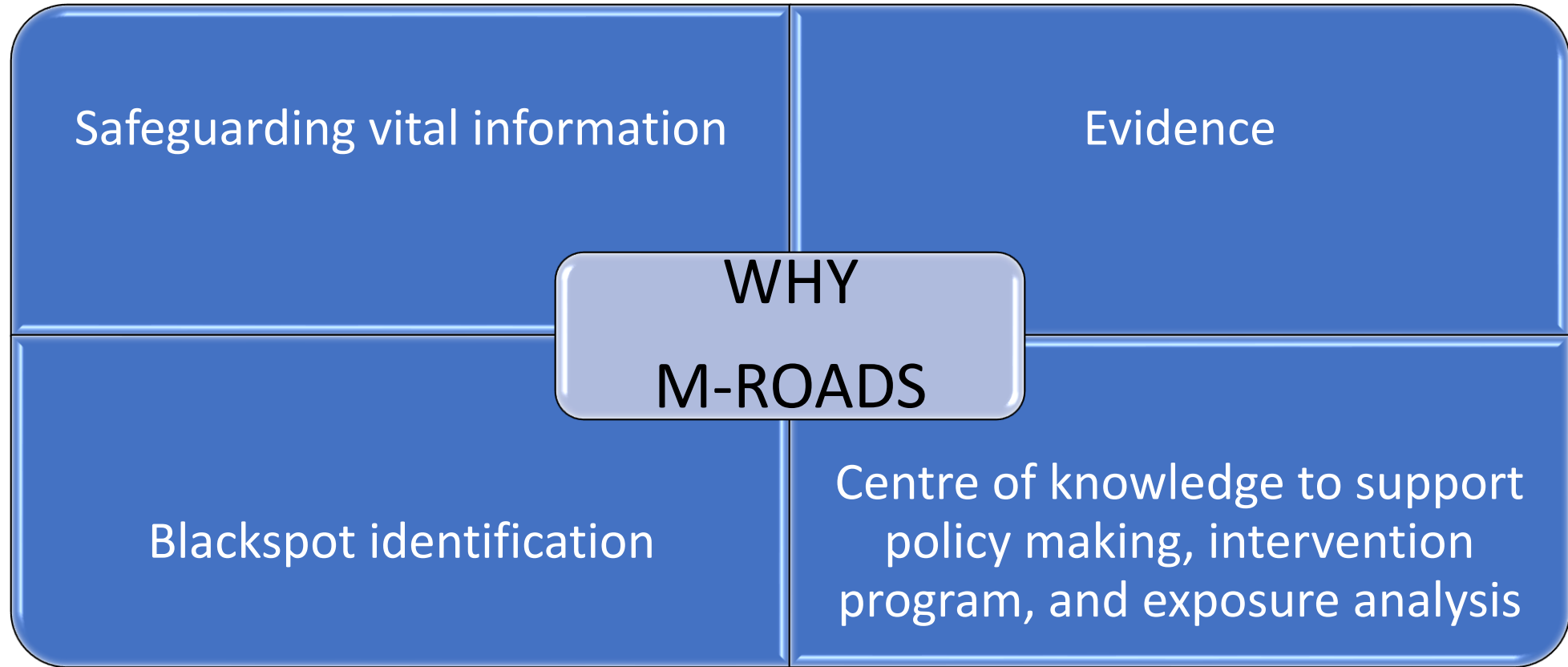
ITS Sectors for  
the Malaysian  
ITS Architecture



# M-ROADS 2.0

MIROS ROAD ACCIDENT ANALYSIS & DATABASE SYSTEM

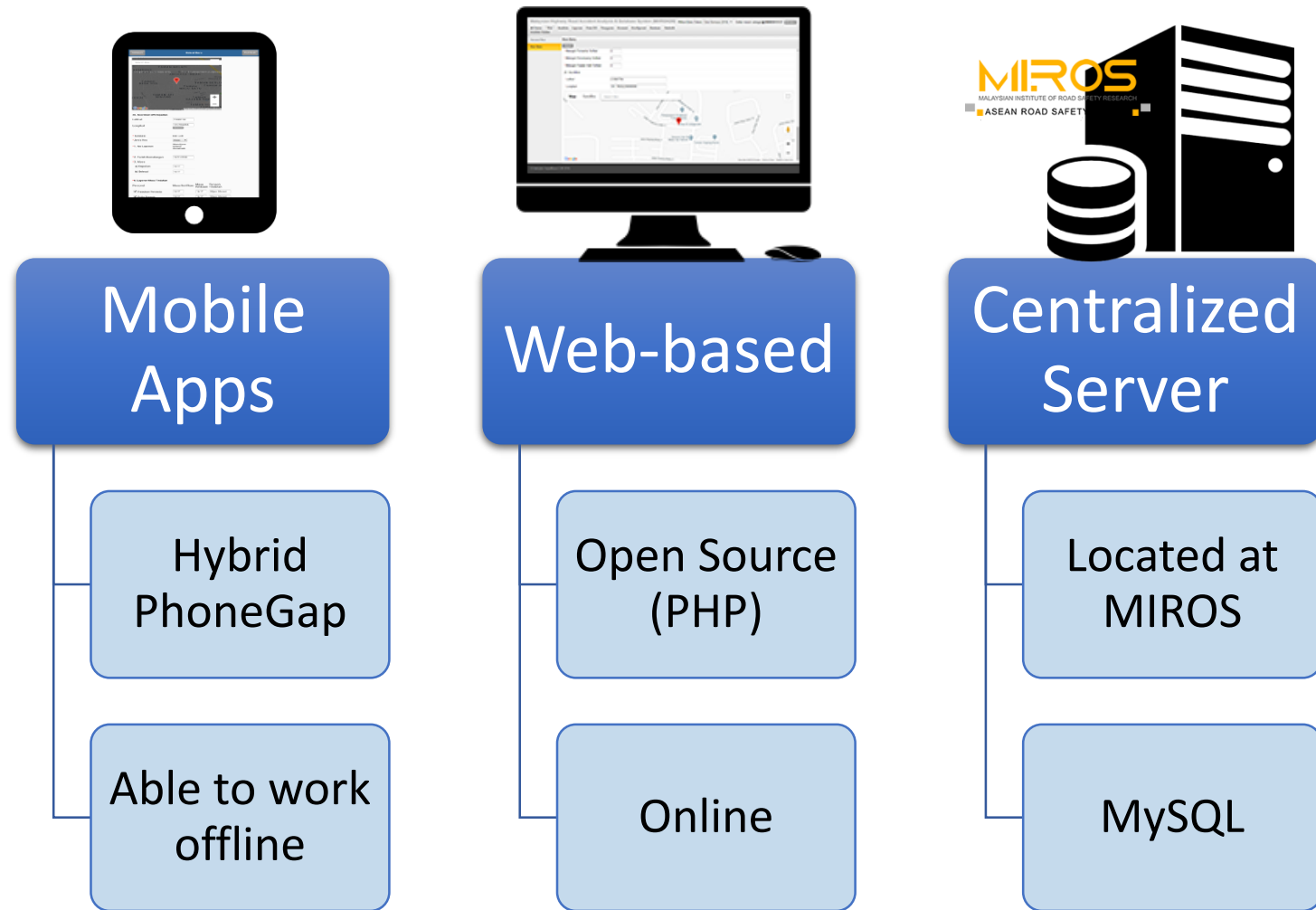
# Introduction



# Introduction

- In-house development
- Utilizing accident data from Royal Malaysia Police (PDRM)
- Centralized system to manage & analyze data
- To support research activity by identifying problem & accident cause

# Development



# Features & Modules

## Case

- Data entry
- Data management
- Listing

## Analysis

- Crosstabulation
- Filter (narrowing down aspect)
- Export result to excel
- Heatmap (Google Maps Layer)

## Data Import/Export

- Export raw data to csv/excel format
- Import existing data into the system

## User Management

- User grouping/Access level

## Configuration

- Dynamic form management

# Datasets

## Accident Info



- ☐ Severity
- ☐ Weather
- ☐ Num. of vehicle involved
- ☐ ...

## Car/Driver Info



- ☐ Vehicle type
- ☐ Vehicle damage
- ☐ Driver injury severity
- ☐ ...

## Injury Info



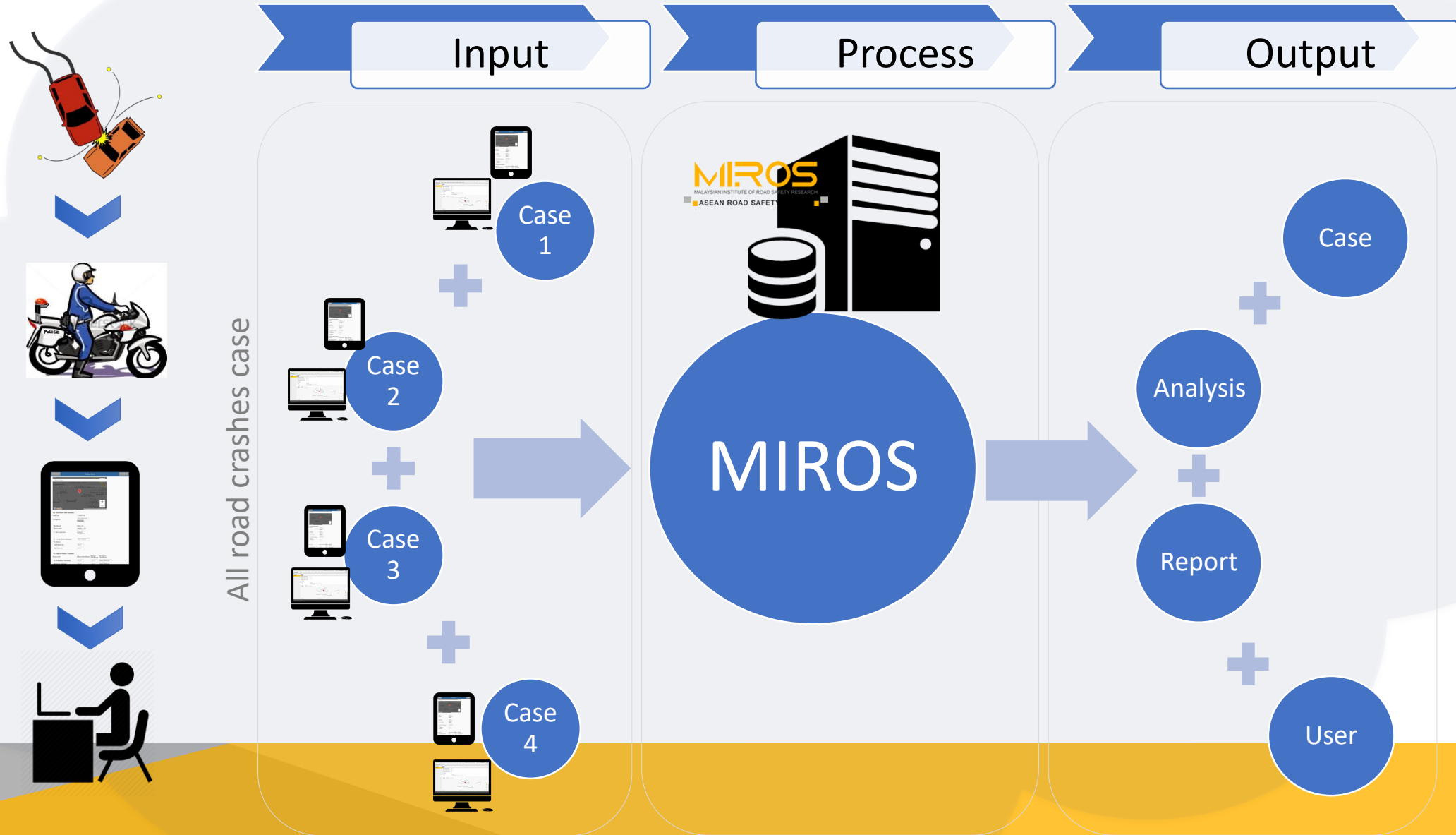
- ☐ Passenger/Pedestrian
- ☐ Injury severity
- ☐ ...

## Other Info

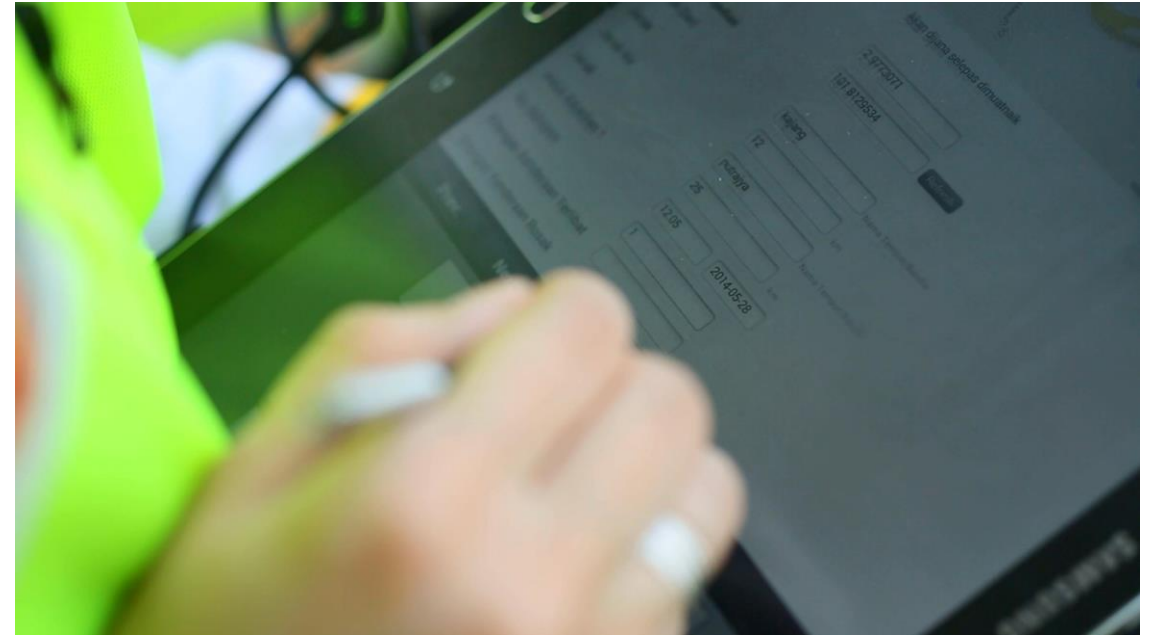


- ☐ Narrative
- ☐ Geolocation
- ☐ ...

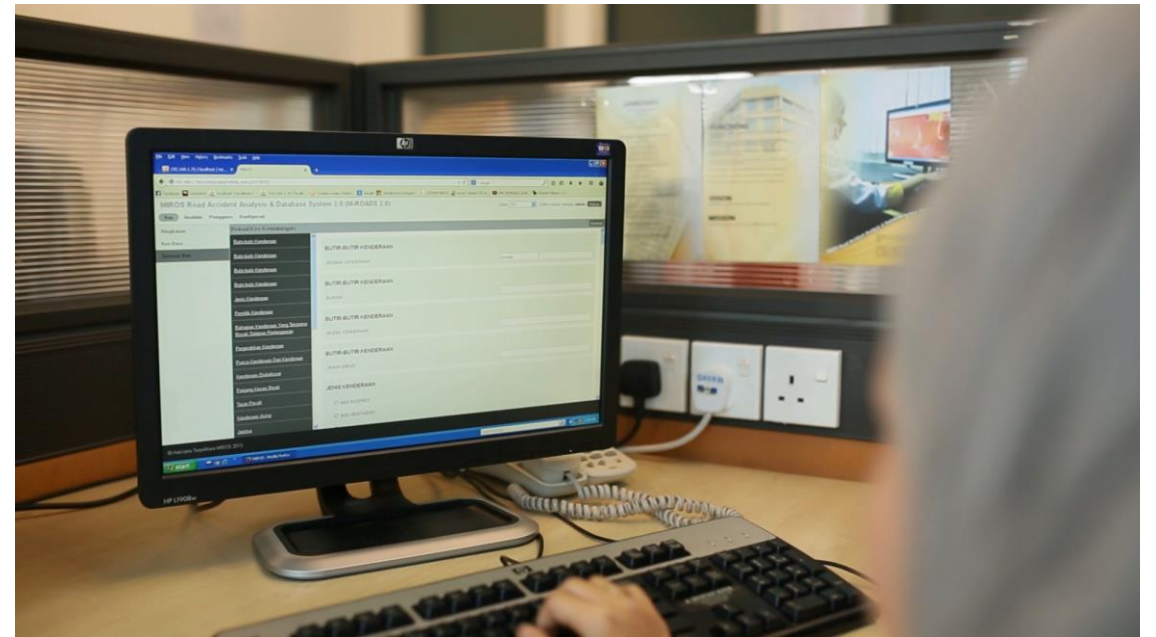
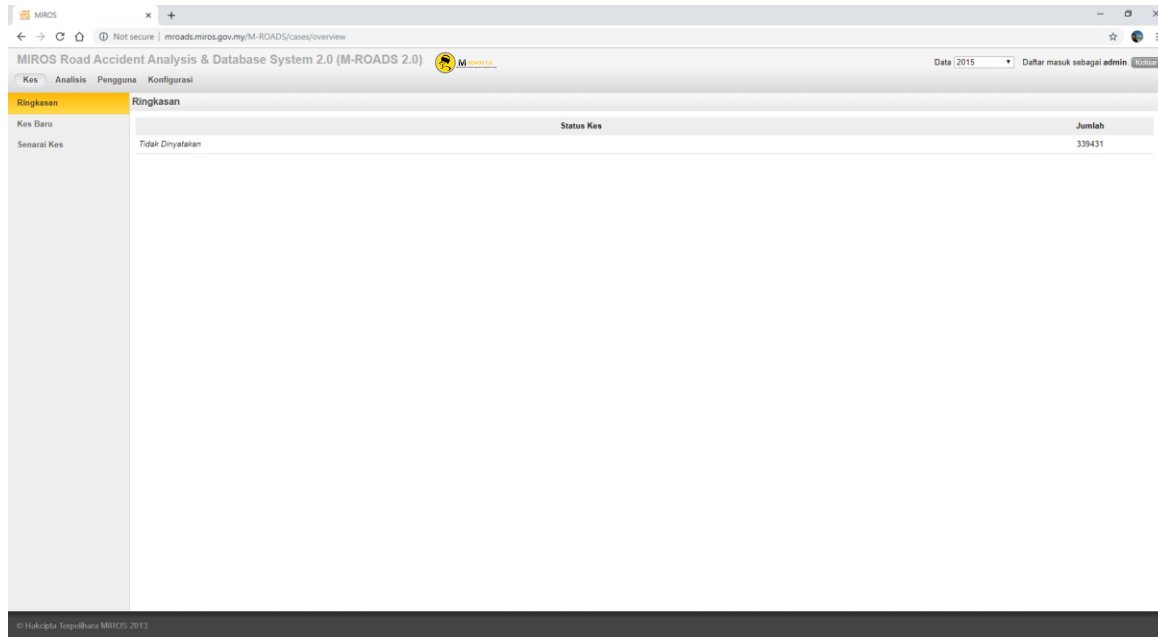
# Conceptual Use of M-ROADS



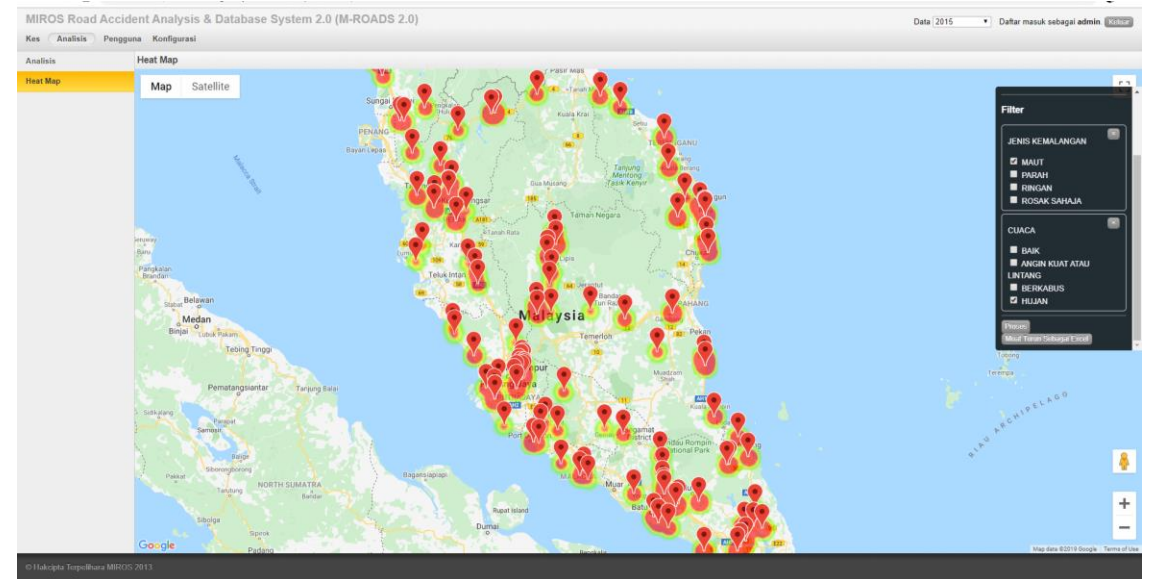
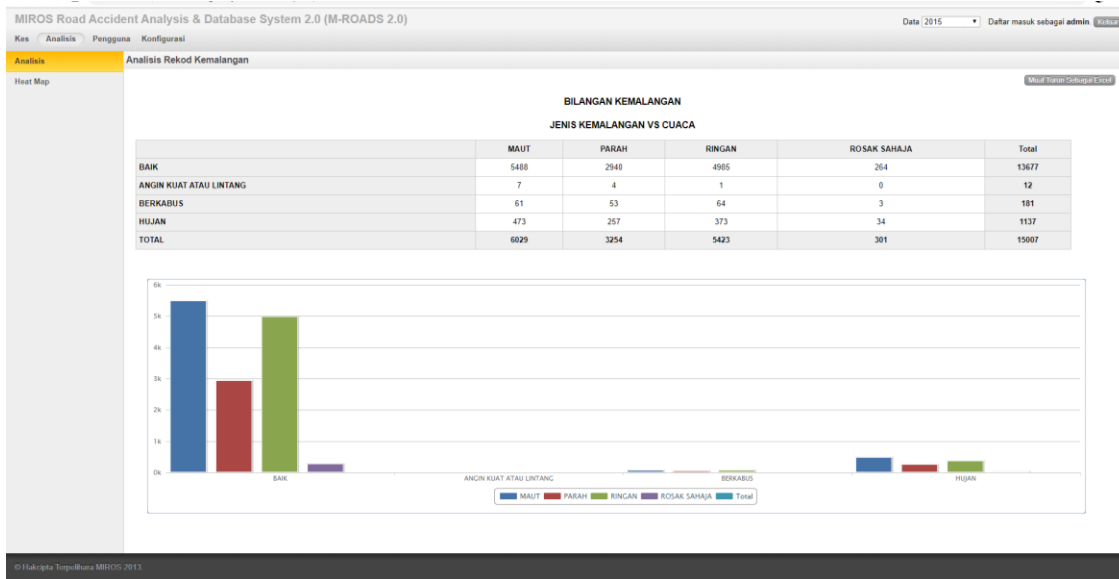
# Conceptual Use of M-ROADS



# Conceptual Use of M-ROADS



# Conceptual Use of M-ROADS



# Awards & Recognitions



- Innovation Award for Road Transport in Developing Countries (INAROAD) 2010
- Winner of Road Safety Category and 3<sup>rd</sup> Place Overall
- Organized by the International Road Federation (IRF) and the award ceremony was held on 10<sup>th</sup> May 2011 at Bucharest, Romania



- Silver medal in the 9th Malaysian Road Conference Invention & Innovation Exhibition (MRC-IIE 2014)
- Submitted with other MIROS projects under the title 'Malaysia Road Risk Manager'

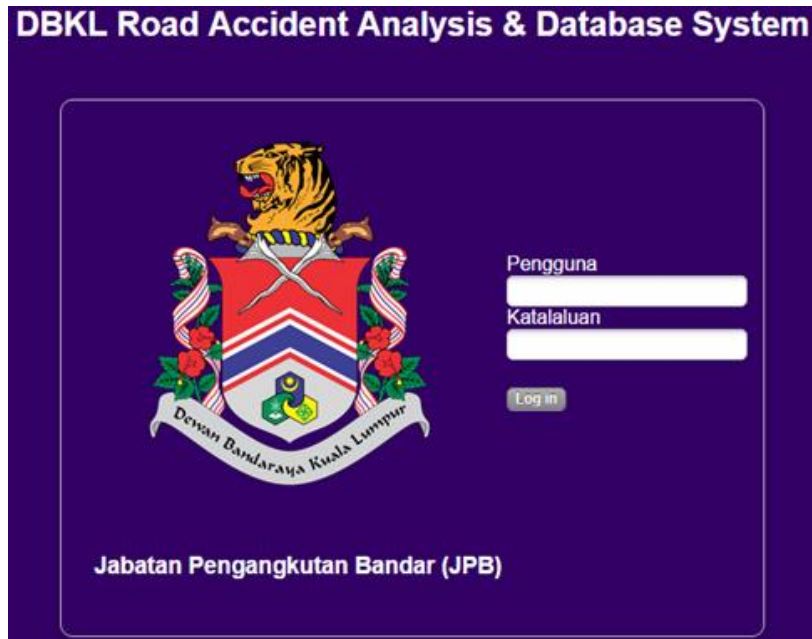
# Awards & Recognitions



- Ministry of Works Innovation Day 2017
- Winner of ICT Category
- MIROS was appointed by Malaysian Highway Authority to customize and extend the usage and function of M-ROADS to improve highway concessionaires road crashes data management, analysis, and reporting

# Commercialization

Since the launching of M-ROADS 2.0 in 2015, there are several agencies appointed MIROS to customize M-ROADS to meet their database requirement



Kuala Lumpur City Hall



MIROS

# Commercialization

Highway authority & concessionaires



Malaysian Highway Authority



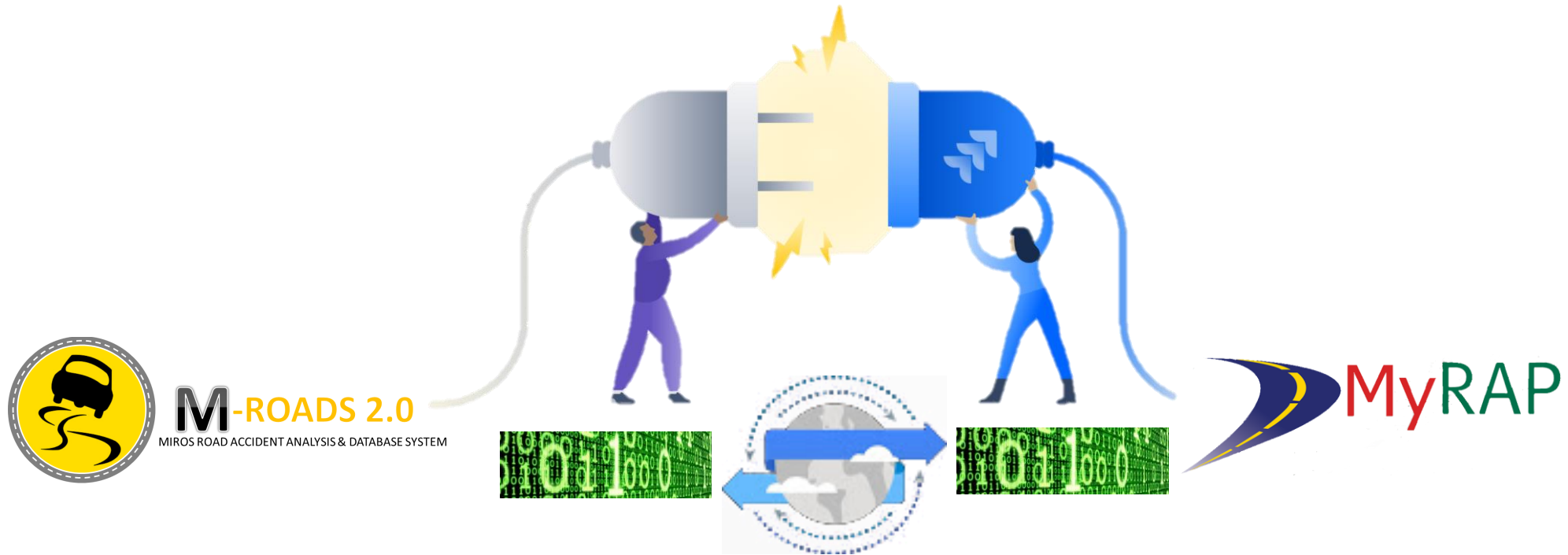
PLUS Expressway



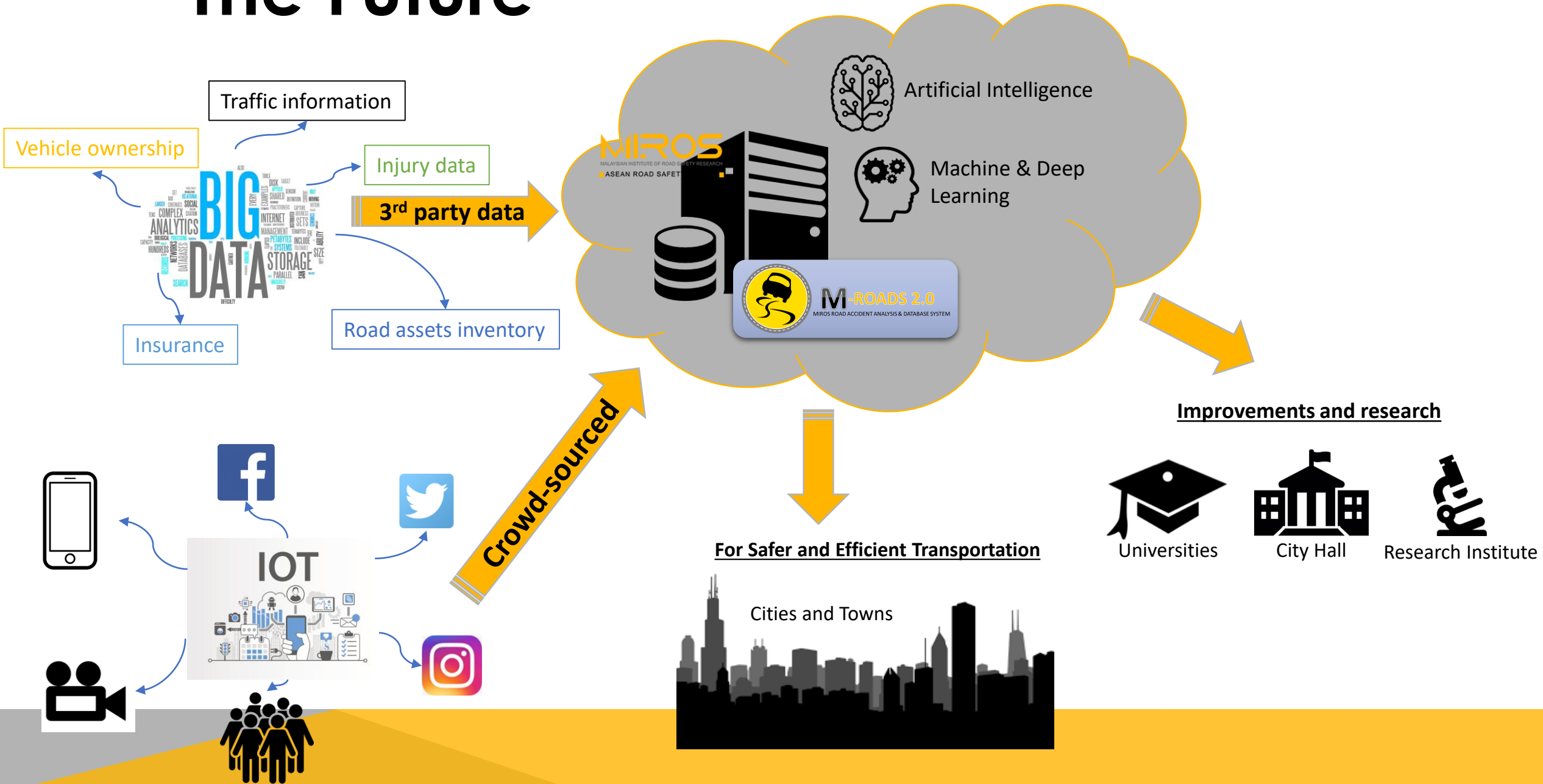
KESAS Expressway

# The Future

## Integration with Malaysia Road Assessment Programme (MyRAP)



# The Future





# THANK YOU

## TERIMA KASIH

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