



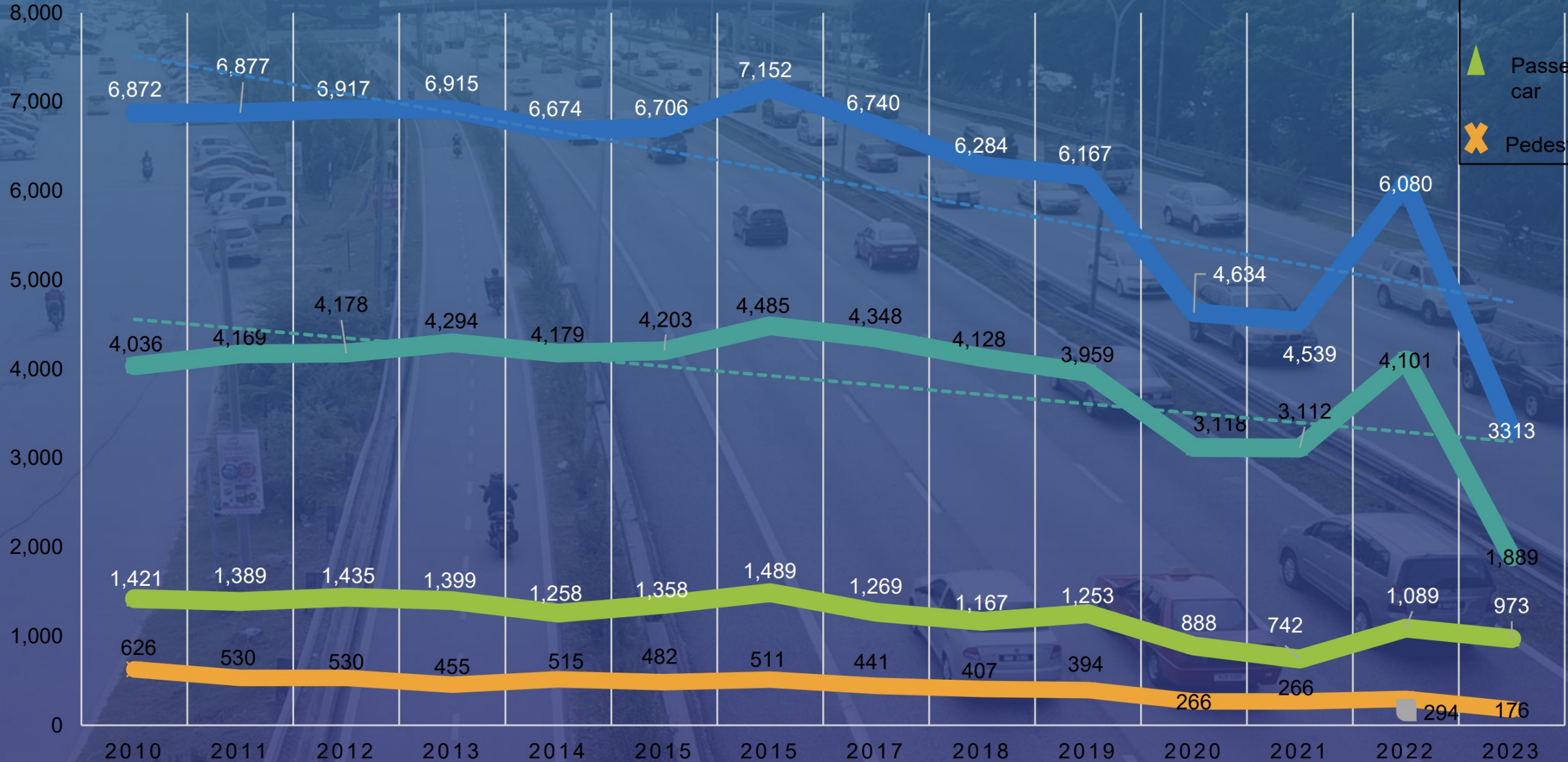
*The 14th Public and Private Joint Forum in Asian Region
- The 28th Asia Government/Industry Meeting -
and
The Government Meeting*

**MALAYSIA ROAD SAFETY PLAN 2022 – 2023
& MOTORCYCLE ABS IMPLEMENTATION**

NOVOTEL HALONG BAY, VIETNAM
28TH – 30TH NOVEMBER 2023

**Ts. MUHAMMAD FIRDHAUS BIN IBRAHIM
ROAD TRANSPORT DEPARTMENT MALAYSIA**

Road Accident Statistics 2010 – 2023 (JUNE)



RM 3.12million

for every death due to road crashes.

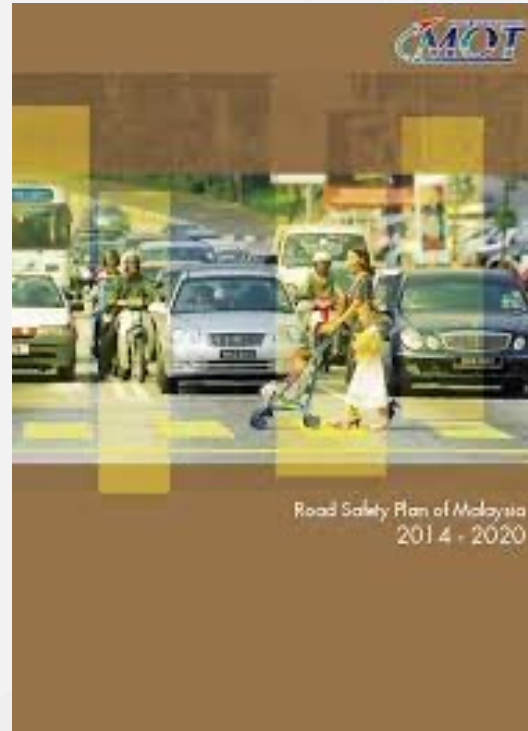
RM 21billion

annually as expenditure due to medical cost, productivity loss and other payout.

MALAYSIA ROAD SAFETY PLAN



2006 - 2010



2014 - 2020



2022 - 2030

MRSP 2022-2030: PROJECTED LINEAR REDUCTION IN ROAD TRAFFIC DEATHS

Projection 2030

No of Fatalities

8000

7000

6000

5000

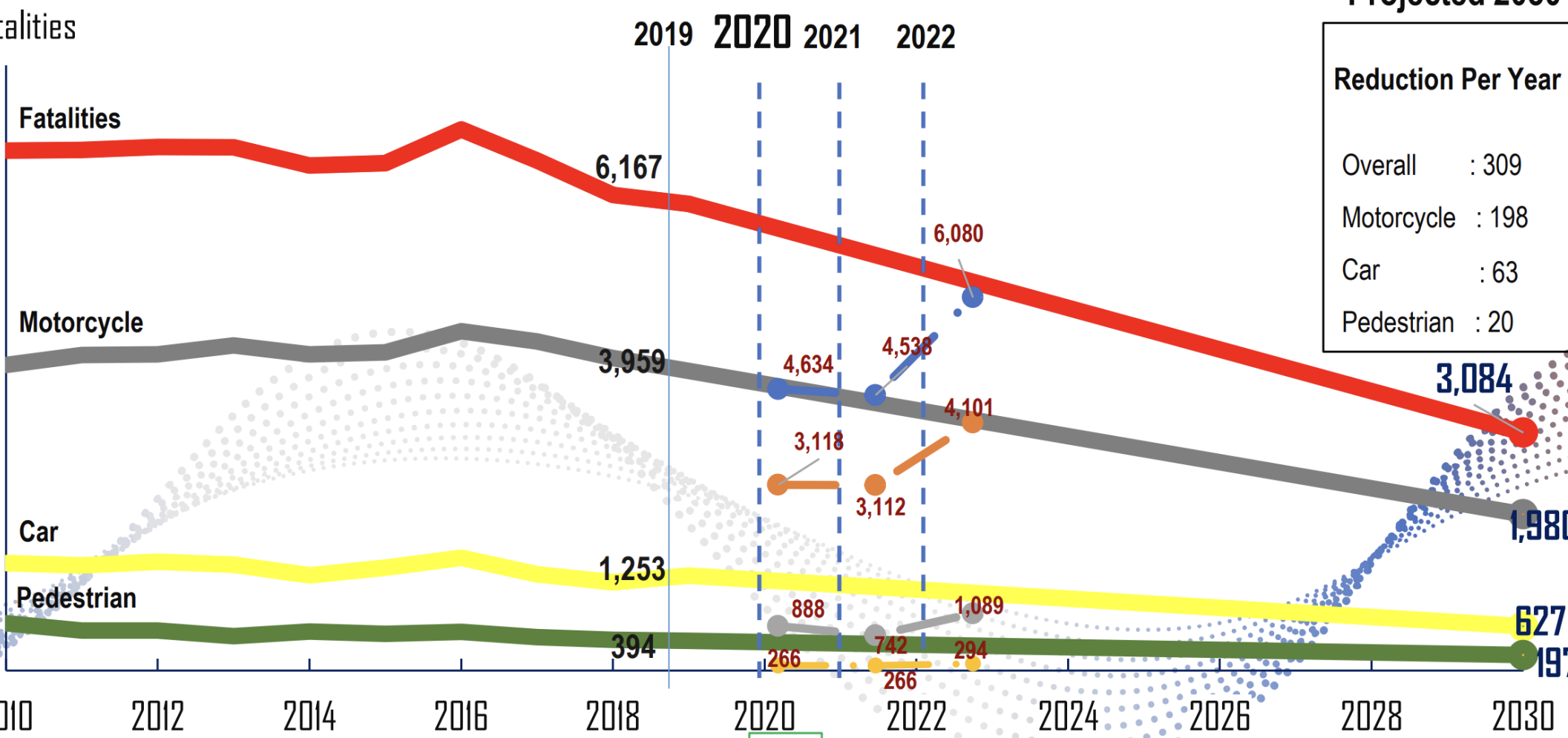
4000

3000

2000

1000

0



Projected 2030

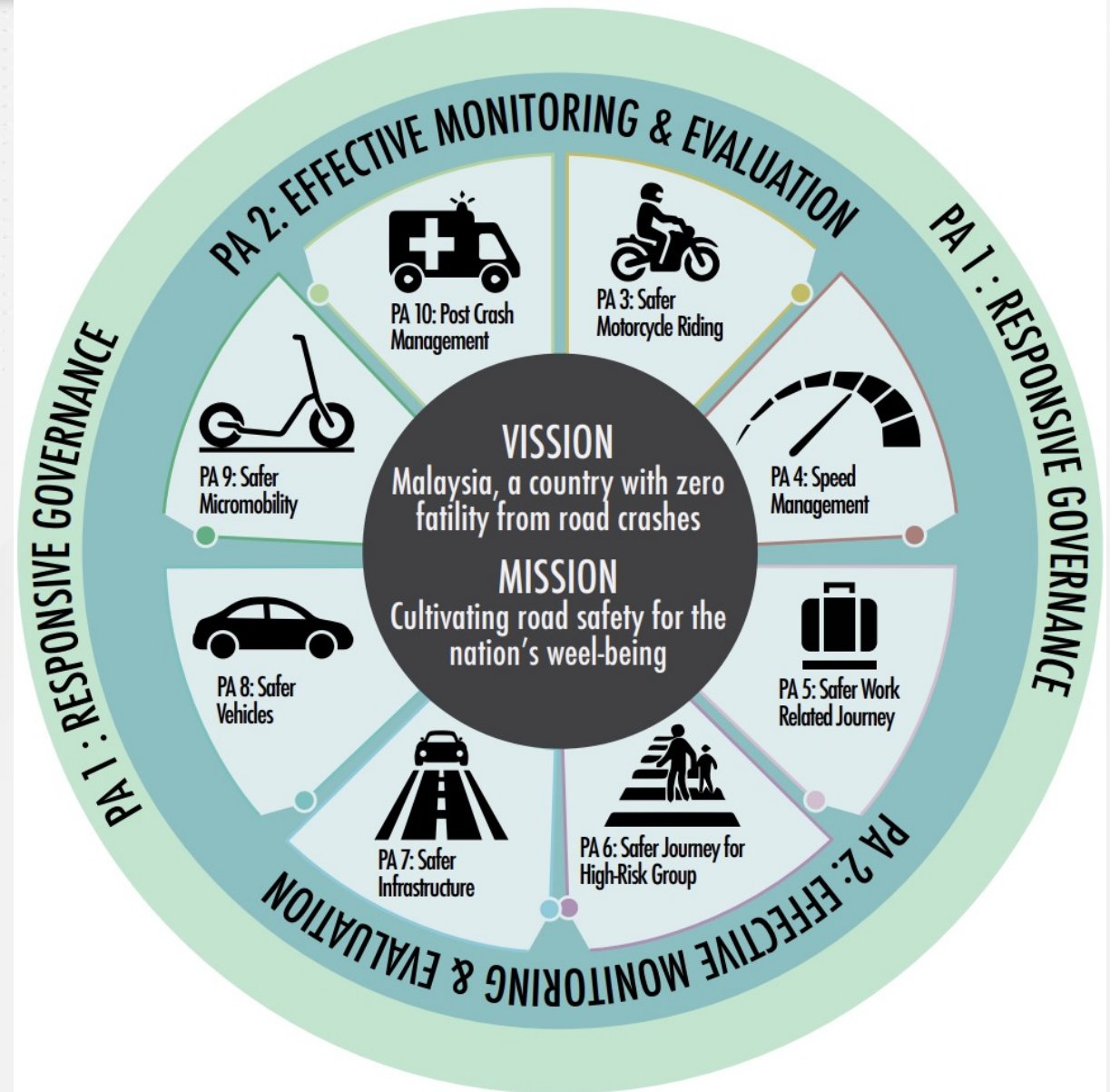
Reduction Per Year

- Overall : 309
- Motorcycle : 198
- Car : 63
- Pedestrian : 20

Year

* Assumption of linear reduction

MALAYSIA ROAD SAFETY ACTION PLAN 2022 - 2030 FRAMEWORK ECOSYSTEM



PRIORITY AREAS



PA 1: Responsive Governance

SA: 3 IS: 6

Coordination

Legislation

Funding



PA 2: Effective Monitoring & Evaluation

SA: 3 IS: 6

Monitoring

Re-align

Dissemination information



PA 3: Safer Motorcycle Riding

SA: 2 IS: 6

Traffic homogeneity

Competency

Enforcement

Technology



PA 4: Speed Management

SA: 2 IS: 4

Infrastructure

Enforcement

Technology



PA 5: Safer Work – Related Journey

SA: 2 IS: 6

Management System

Commuting Safety

PRIORITY AREAS



**PA 6: Safer Journey
High – Risk Group**

SA: 2 IS: 5

Education

Enforcement



**PA 7: Safer
Infrastructure**

SA: 2 IS: 6

Road

Public Transport



PA 8: Safer Vehicle

SA: 3 IS: 8

Roadworthiness

**Active & Passive
Safety**

Technology



**PA 9: Safer
Micromobility**

SA: 2 IS: 5

Enforcement

Infrastructure



**PA 10: Post Crash
Management**

SA: 2 IS: 6

Emergency Response

Trauma Management

Social Integration

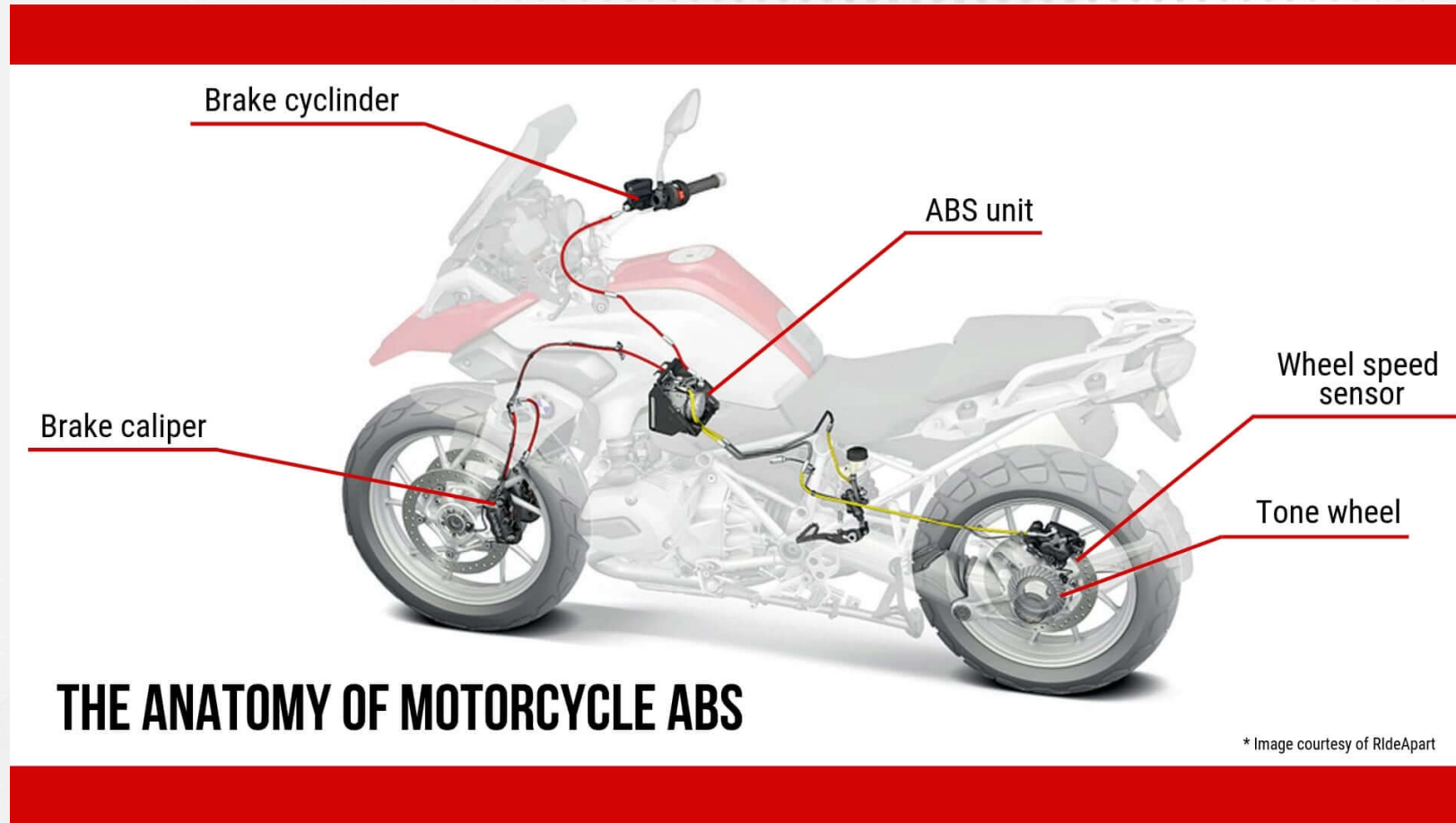


PA 3: Safer Motorcycle Riding

- PA 3 consists of two (2) sub-areas (SA) and five (5) Implementation Strategies (IS) to achieve the main outcomes
- Sub-Area 3.2: Increasing the effectiveness level of motorcycle safety technology
- Implementation Strategies 3.2.1: Enforcing mandatory use of Anti-lock Braking System (ABS) for New Motorcycles

MOTORCYCLE ANTI – LOCKING BRAKING SYSTEM (ABS)

- Preventing the wheels from locking while the vehicle is in motion and avoid skidding during braking
- As the wheels continue to rotate, the vehicle can move in whatever direction the driver is steering (stability)
- Thus, ensure the driver to have control of the vehicle





- **Implementation on 1st January 2025 for new motorcycle**
- **Mandatory for 150 cc / 13kW & above**
- **Compliance on UN R78**
- **Minimum requirement single channel for front wheel**

MOTORCYCLE ABS IMPLEMENTATION IN MALAYSIA



- Requirement for ABS in UN R78 is not mandatory
- Amendment of Motor Vehicles (Construction and Use) Rules, 1959

**Driven with Innovation,
Fueled by Impact**



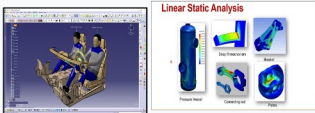
MARii[®]

MALAYSIA AUTOMOTIVE ROBOTICS AND IoT INSTITUTE
An agency under the Ministry of Investment, Trade & Industry (MITI)

Strengthening the EV ecosystem in Malaysia

Ts. Mohd Sharulnizam bin Sarip
Chief Operating Officer

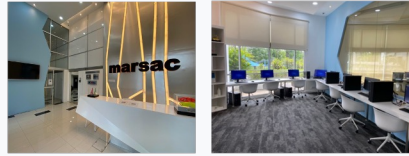
INTRODUCTION - MARii



MARii Additive Technology Centre (MAMTEC)



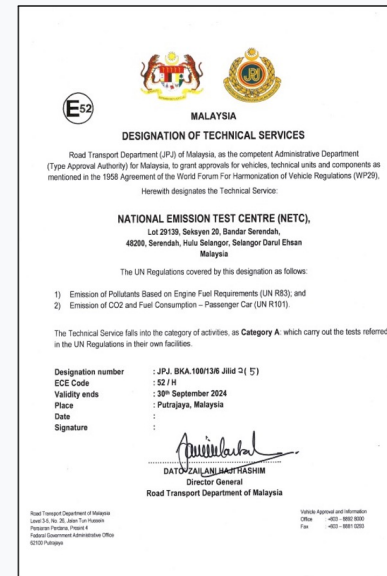
MARii Main Office
Block 2280, Jalan Usahawan 2,
Cyber 6, 63000 Cyberjaya



MARii Simulation & Analysis Centre (MARSAC)



ISO/IEC 17025:2017



TECHNICAL SERVICE E52



ILB FOR AUTOMOTIVE



MARii Academy of Technology
Jalan Jasmine, Bandar Bukit Beruntung,
Selangor (Relocation)



National Emission Testing Centre (NETC),
Mukim Serendah,
48000, Rawang, Selangor



MARii Design Centre (MDC)
Jalan Jasmine, Bandar Bukit Beruntung,
48300, Selangor (Relocation)

RECOGNIZED BY UNITED NATIONS E52/H

COMPLETE FACILITIES FOR EMISSION / ENERGY CONSUMPTION
UNR 83, UN R101, GTR 15, MS2722

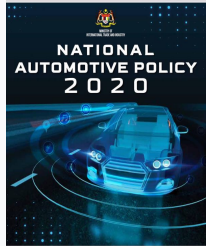
NOSS FOR EV





POLICIES IN RELATION WITH AUTOMOTIVE INDUSTRY'S CN50 MAPPING

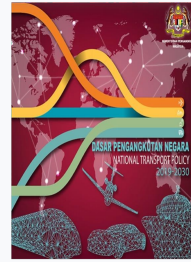
POLICIES IN MALAYSIA



National Automotive Policy (NAP) 2020
MITI / MARii



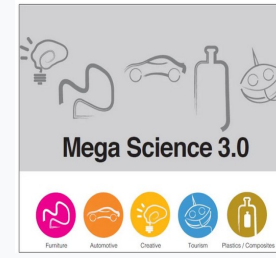
Low Carbon Mobility Blueprint
KASA / MGTC



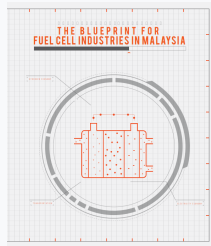
National Transport Policy (NTP)
MOT / JPJ



Malaysian ITS Blueprint
KKR



Megascience 3.0
ASM/MARii



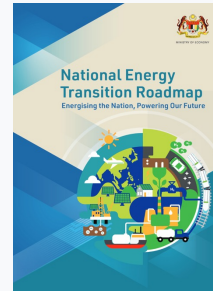
The Blueprint for Fuel Cell Industries in Malaysia
ASM



Hydrogen Economy And Technology Roadmap
MOSTI / NanoMalaysia



National Energy Policy
MoEconomy



National Energy Transition Roadmap
MoEconomy



New Industrial Masterplan 2030
MITI



Technology & Industry Development
MARii



Investment and Adoption
MIDA



Human Capital, Safety and Aftermarket
MARii



40 initiatives

Elements	Initiative	Document
EV Charging Infrastructure	9	NAP 2020, LCMB, ITS Blueprint, TNB, Hydrogen Roadmap
Development of EV Bus	3	NAP 2020, LCMB, Smart City Framework
Battery Management System	5	NAP 2020, NTP, NanoMalaysia, NEP
Battery Swapping and Wireless charging	4	NAP 2020, LCMB, NanoMalaysia
Hydrogen Fuel Cell development	5	NAP 2020, Blueprint Fuel Cell, NanoMalaysia
Programs upraise local players	4	NAP 2020, NTP
Green Mobility	16	NETR, NIMP



14 initiatives

Elements	Initiative	Document
Incentives	4	NAP 2020, LCMB, NTP, Hydrogen Roadmap
Green Index incentive/tax exemption	2	NAP 2020, NTP
Funds	3	TNB, Hydrogen Roadmap, NIMP
Regional / International Agreements and Cooperation	5	NAP 2020, NTP



23 initiatives

Elements	Initiative	Document
Technical Expertise Development	18	NAP 2020, NTP, Blueprint Fuel Cell, NETR, NIMP
Regulate aftersales ecosystem	5	NAP 2020, NTP

77 INITIATIVES



Lead Agency



EV ECOSYSTEM IN MALAYSIA



Relevant Government Ministries led by Ministry of Investment, Trade and Industry (MITI)



	Policy & Initiative	Infrastructure	Vehicles	Component Makers
Supporting Government Agencies	<p>NAP 2020</p> <p>Low Carbon Mobility Blueprint 2021-2030</p> <p>BUDGET 2023</p> <p>NATIONAL TRANSPORT POLICY 2019-2030</p> <p>NANO MALAYSIA ENERGY STORAGE TECHNOLOGY INITIATIVE</p>		<p>V O L V O</p>	<p>SAMSUNG SDI</p> <p>UMORIE</p> <p>ELEKTRISOLA</p>
	Education, Research & Technology			
	Electric Vehicles as a Services Operator			
	Regulatory Agencies			



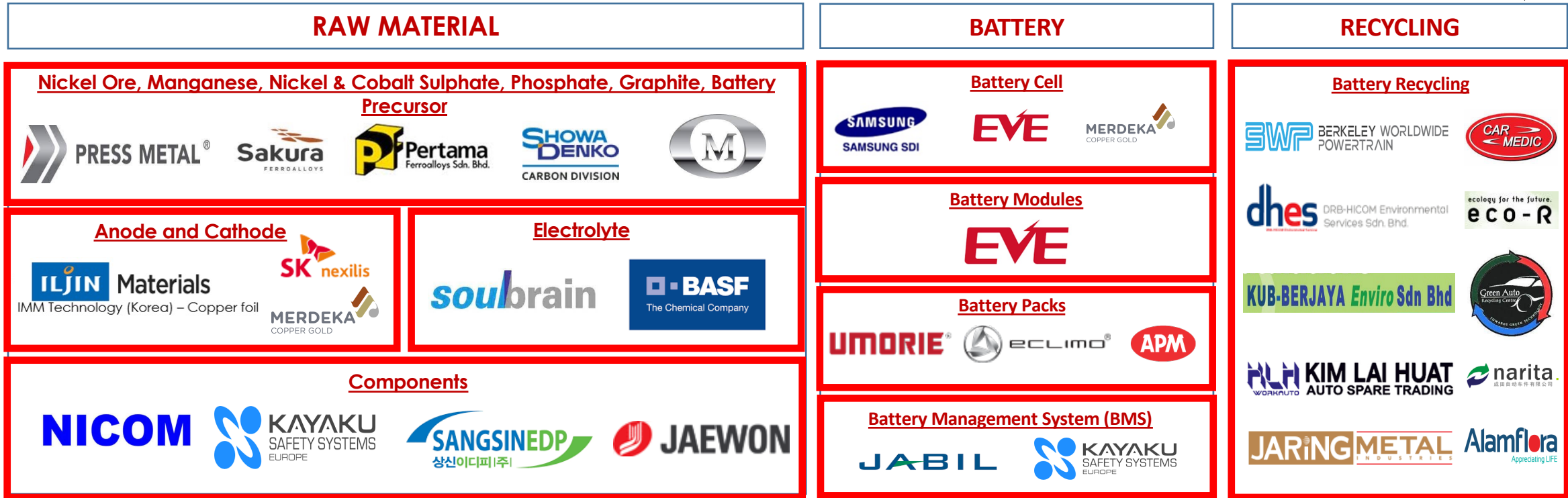
MALAYSIA EV SEMICONDUCTOR VALUE CHAIN



MALAYSIA EV BATTERY VALUE CHAIN



MINISTRY OF INVESTMENT, TRADE AND INDUSTRY



INDUSTRY SNAPSHOT



20,464 unit
(PV + CV)

3.51% TIV

Up to 21 Sept 2023



556 unit
(Motorcycle)

0.12% TIV

Up to 21 Sept 2023



138 unit
(Bus)

0.01% from permit

Up to 21 Sept 2023



1,246 unit
EV Chargers

239 DC + 1,007 AC

Up to 30 Ogos 2023

LOCAL ECOSYSTEM DEVELOPMENT



Facebook, LinkedIn, Instagram icons
@ MARiiMalaysia

Vendor Development Programme

Based on:

National Roadmap for Automotive & Mobility Value Chain (NRAMVC) under the National Automotive Policy 2020

Business & Operational Excellence

Digital & Engineering Prototyping

Focusing on:

Technology Advancement

Market Outreach

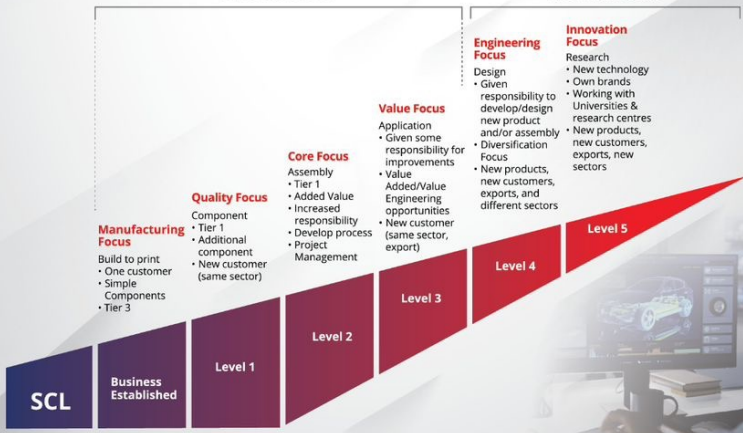
Action Plans for Excellence:



Supplier Competitiveness Level (SCL) for Vendor Development

Internal Focus

External Focus



Industry Lead Body

"Empowering Industrial Sector"

The Industrial Lead Body (ILB) is a driving organization within the industrial sector, appointed by the Ministry of Human Resources to fulfill essential functions aligned with the requirements of JPK.

Key Criteria for ILB Appointment:

- Government Mandate
- Industry Endorsement
- Regulatory Compliance

MARii has been appointed as Industry Lead Body (ILB) in 2013 by the Ministry of Human Resource.

Programmes by MARii under JPK :-

- 01** Development of automotive industry (IoT and Robotics) NOSS
- 02** Sijil Kemahiran Malaysia certification through Pengiktirafan Pencapaian Terdahulu (PPT)
- 03** Promotions and awareness of SKM (Sijil Kemahiran Malaysia)
- 04** Research in the automotive industry (IoT and Robotics).



National Occupational Skills Standard

NOSS is a document that outlines the dexterity required of an employee working in Malaysia at a certain level of employment to achieve specific skills.

Main Features NOSS

- 01 Career-Based.
- 02 Follows the career structure of a given field.
- 03 Prepared by a pool of industry experts and skilled workers who carry out the job.

The NOSS can be used for

- Recognition of Prior Achievement certification for experienced manpower
- National Dual Training System (SLDN) is for graduates

70%-80% Practical Training | 20%-30% Theoretical Learning

NOSS for EV

- 1 Electric Bus Operation
- 2 Electric and Hybrid Car Service
- 3 Battery Electric Vehicle (BEV) Diagnostic and Rectification
- 4 Electric Vehicle Charging Station Installation and Maintenance



APPLICATION FOR ELECTRIC VEHICLE CHARGING STATION INCENTIVE



TECHNICAL EVALUATION

We offer technical evaluation to ensure the viability of the project.



DC INSTALLATION

Installation exclusive to high-speed DC charging stations to cater to the fast-paced needs of today's electric vehicle users.



CONTRIBUTE EV ECOSYSTEM

Position your business as a key player in the growth of the electric vehicle infrastructure



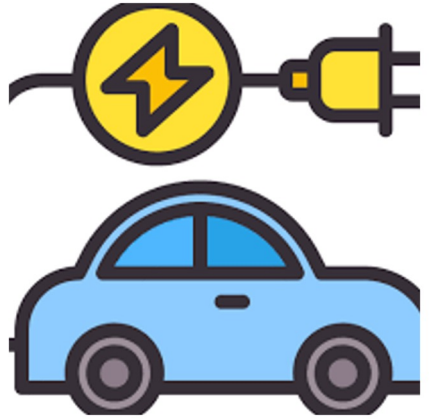
CONTACT US

www.marrii.my | amr@marrii.my



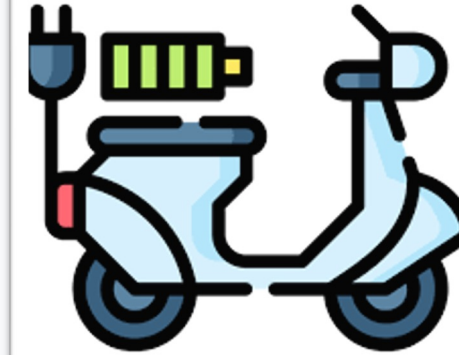
Standard Development

List of EV Standards



Passenger Vehicle

UN Regulation No. 100



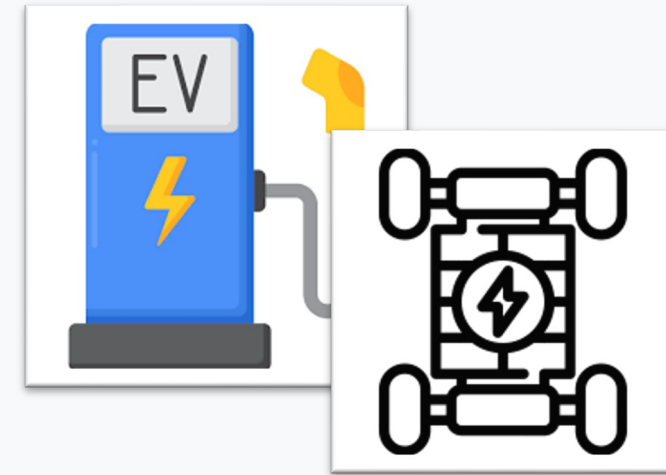
Electric Motorcycle

- i. UN Regulation No. 136
- i. MS 2413 : Electric motorcycle (>50 km/h)
- ii. MS 2688 : Electric moped (25-50 km/h)
- iii. **Under development: Battery Swapping**



Electric Bicycle

MS 2514: Electric Bicycle (<25km/h)



EV Battery & Chargers

- i. MS IEC 62196 : EV Connectors & Inlet
- ii. MS IEC 61851 : EV Conductive Charging System
- iii. MS IEC 62660 : Li-Ion Testing for EV
- iv. SAE 1772 : EU-Type 2

Training Programmes Under MARii

ENHANCEMENT OF CURRENT PROGRAMMES

- Automotive Industry Certification Engineering (AICE)
- Industry Led Professional Certificate (IPC)
- IPC – Pengiktirafan Pencapaian Terdahulu
- IPC – Sistem Latihan Dual Nasional
- IPC Industry4WRD Programme
- Industry4WRD Additive Manufacturing – Generative Design Explorer Programme (IAMP)
- Industry4WRD Mixed Reality Programme (IMRP) – AR/VR
- Industry4WRD Simulation Computer Aided Engineering (CAE) Programme (ISCAE)
- Peneraju Skil AICE DEP Programme
- PENJANA KPT Career Advancement Programme (Industry Certification Engineering)
- Graduate Apprenticeship (GA)
- Employability and Re- Training Local Talent Programme (ERT)
- Reskilling and Re-Employment with Perodua and Ecosystem Programme (REPEAT)

NEW PROGRAMMES

- Industry4WRD IoT Engineer Programme (IIEP)
- Industry4WRD Autonomous Robotics Engineer Programme (IAREP)
- Industry4WRD Data Scientist Analytics Programme (IDSAP)
- Industry4WRD Cybersecurity in Smart Manufacturing (ICISM)
- Industry4WRD Vertical & Horizontal Programme (IVHP)
- Industry4WRD Digital Twins (DT) Programme (IDTP)

APPRENTICESHIP
 AUTOMOTIVE GRADUATE APPRENTICESHIP PROGRAMME

AICE
 AUTOMOTIVE INDUSTRY
 CERTIFICATION ENGINEERING

IPC
 INDUSTRY
 LED PROFESSIONAL
 CERTIFICATION

penjana
 Pelan Jana Semula Ekonomi Negara

Supply Chain Programs Under MARii

List of Programs Offered by MARii for Supply Chain Development

MARii
CATIA V5 2022
CERTIFICATION
PROGRAMME

Your platform to become a certified
CATIA V5 Mechanical Design Specialist
FEBRUARY - MAY 2022
160 PAX ONLY

Two Certifications Available:

- CATIA V5 MECHANICAL DESIGN SPECIALIST
- CATIA V5 SURFACE DESIGN SPECIALIST

JOIN FOR FREE

MARii
INSTITUT AUTOMOTIF ROBOTIK DAN IoT MALAYSIA
MALAYSIA AUTOMOTIVE ROBOTICS AND IoT INSTITUTE

LIST OF VDP PROGRAMMES

KARAKURI > Batch 1 start February - May 2022

- LPS** EFFECTIVE PRODUCTION PLANNING (EPP)
- QUICK CHANGE-OVER (QCO)
- JUST-IN-TIME (JIT) & BUILT-IN QUALITY (BIQ)

CEO/OWNER GROWTH MINDSET PROGRAM (COGMP)

RISK MANAGEMENT (RM) > Batch 1 start February - May 2022

- CASHFLOW FORECASTING ANALYSIS (CFA)
- FUNDAMENTAL TOOL, DIE & MOULD (FTDM)

Scan the QR code to register:

For more information, please email to: scd@maril.my
| website: www.maril.my

Maklyia Automotive Robotics and IoT Institute (MARii)
Block 2210, Jalan Usahawan 2, Cyber 6,
63000, Cyberjaya, Selangor, Malaysia
E-mail: info@maril.my Tel: (+60) 03-8318 7142

- AUTOMOTIVE SUPPLIER EXCELLENCE PROGRAMME (ASEP)
- LEAN PRODUCTION SYSTEM (LPS)
- CEO / OWNER GROWTH MINDSET PROGRAMME (COGMP)
- CENTRE WITH OEM COMPUTER AIDED ENGINEERING (CAE)
- MARii INDUSTRY4WRD TECHNOLOGY PLATFORM (MITP)
- MARii SIMULATION AND ANALYSIS CENTRE (MARSAC) TRAINING PROGRAM
- DEALERS ENTREPRENEURSHIP ENHANCEMENT PROGRAMME (DEEP)
- MARii ADDITIVE MANUFACTURING TECHNOLOGY CENTRE (MAMTEC)
- DIGITAL DESIGN SMART COLLABORATIVE PLATFORM (DDSCOP)
- SMART PREDICTIVE MAINTENANCE DATA SYSTEM (SPMDS)
- MARii ENTERPRISE RESOURCE PLANNING (MARii ERP)

National Occupational Standards

NOSS outlines the skills required by an employee working at a certain level of employment to achieve specific competency.

NOSS is developed by a pool of the industry expert and skilled workers in the area of performed job.

The NOSS can be used for

- Pengiktirafan Pencapaian Terdahulu (PPT)/Recognition of Prior Achievement certification for experienced manpower.
- SLDN stands for National Dual Training System is for graduates which includes actual workplace (company) of 70% to 80% practical training (performance) and 20% to 30% theoretical learning (knowledge).

MARii is one of Industrial Led Body (ILB) under JPK.

15) STESEN PENGECAS KENDERAAN ELEKTRIK (ELECTRIC VEHICLE (EV) CHARGING STATION)	
Tiada Tahap (No Level)	NCS-005:2017 Pemasangan dan Penyelenggaraan Stesen Pengecas Kenderaan Elektrik <i>Electric Vehicle (EV) Charging Station Installation and Maintenance</i> (27-11-2017)

Area	Operasi Bas Elektrik / <i>Electric Bus Operation</i>	Servis Kereta Elektrik dan Hibrid / <i>Electric and Hybrid Car Service</i>	Servis Kereta Elektrik
L5	TP-331-5:2014 Pengurusan Penyelenggaraan Bas Elektrik / <i>Electric Bus Maintenance Management</i> (16-12-2014)	G452-002-5:2017 Pengurusan Servis Selepas Jualan - Kenderaan Bermotor / <i>Motor Vehicles - After Sales Service Management</i> (20-06-97) (17-07-2012) (28-03-2017)	<i>Level 5: Not Available</i>
L4	TP-331-4:2014 Pengurusan Penyelenggaraan Bas Elektrik / <i>Electric Bus Maintenance Management</i> (16-12-2014)	G452-002-4:2017 Operasi Servis Selepas Jualan - Kenderaan Bermotor / <i>Motor Vehicles - After Sales Service Operation</i> (20-06-97) (17-07-2012) (28-03-2017)	<i>Level 4: Not Available</i>
L3	TP-331-3:2014 Operasi Bas Elektrik / <i>Electric Bus Operation</i> (16-12-2014)	G452-007-3:2019 Servis Kereta Elektrik dan Hibrid / <i>Electric and Hybrid Car Servicing</i> (16-12-2014) (07-08-2019)	G452-010-3:2023 Diagnostik dan Pembaikan Kenderaan Elektrik Bateri (BEV) / <i>Battery Electric Vehicle (Bev) Diagnostic And Rectification</i> (8-5-2023)
L2	<i>Level 2: No Job Title</i>	G452-002-2:2018 Perkhidmatan Pembaikan - Kenderaan Ringan / <i>Light Vehicle - Repair Service</i> (07-07-93) (16-07-98) (25-10-10) (24-04-2013) (11-10-2016) (08-10-2018)	
<i>Level 1: No Job Title</i>			

Area	2 Tayar / 2 Wheel	Penyelenggaraan Motosikal / <i>Motorcycle Servicing</i>
L5	TP-119-5:2015 Kejuruteraan Sukan Bermotor (2 Tayar) <i>Motorsport Engineering (2 Wheel)</i> (31-03-2015)	TP-118-5:2015 Pengurusan & Penyelenggaraan Motosikal <i>Motorcycle Servicing & Management</i> (31-03-2015)
L4	TP-119-4:2015 Kejuruteraan Sukan Bermotor (2 Tayar) <i>Motorsport Engineering (2 Wheel)</i> (31-03-2015)	TP-118-4:2015 Pengurusan & Penyelenggaraan Motosikal <i>Motorcycle Servicing & Management</i> (31-03-2015)
L3	G454-001-3:2018 Motosikal - Perkhidmatan Diagnosis <i>Motorcycle - Diagnose Service</i> (19-07-96)(30-05-2002)(05-04-2012)(07-05-2018)	
L2	G454-001-2:2018 Motosikal - Perkhidmatan Pembaikan <i>Motorcycle - Repair Service</i> (19-07-96)(30-05-2002)(05-04-2012)(07-05-2018)	
L1	G454-001-1:2018 Motosikal - Penyelenggaraan & Perkhidmatan <i>Motorcycle - Maintenance & Service</i> (19-07-96)(30-05-2002)(05-04-2012)(07-05-2018)	

Infrastructure Development

Authorized Automotive Treatment Facilities (AATF)

Jabatan Alam Sekitar Malaysia



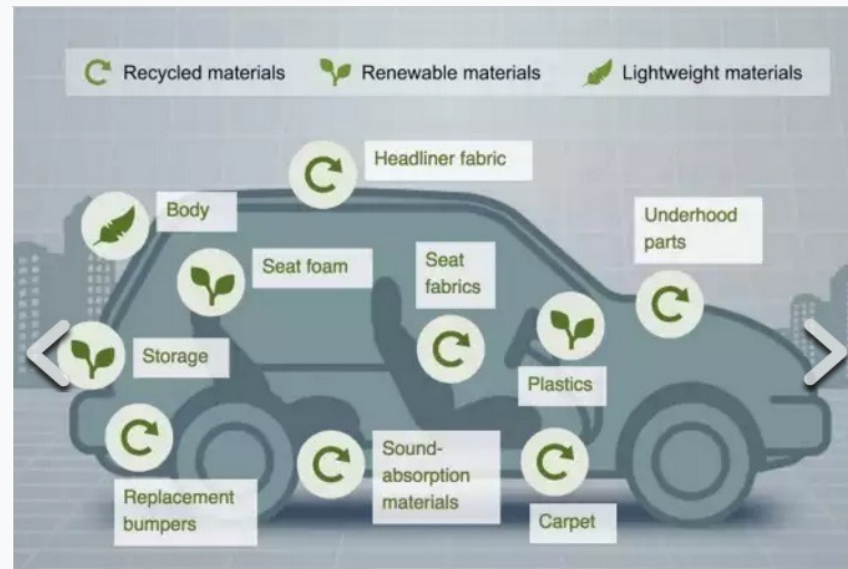
**PROSEDUR PERMOHONAN
LESEN BAGI KEMUDAHAN
RAWATAN AUTOMOTIF
BERLESEN**

(AUTHORISED AUTOMOTIVE TREATMENT FACILITY - AATF)

The Procedure for AATF license application finalised by DOE in 2022. The purpose of this guideline is to explain the procedure for occupying and using a Licensed Authorised Automotive Treatment Facilities (AATF) for the operation of abandoned vehicles licensed under the provisions of Sections 11 and 18 (1), Environmental Quality Act 1974 (AKAS).

The company shall certify with **MS 2697 (Motor Vehicle Aftermarket – Repair, Reuse, Recycle and Remanufacture for parts and components (4R))** to applied the licensed.

In addition, the **Guideline for EV Battery Recycling and Remanufacturing** in Malaysia is under development and will be based on Malaysian Standard (MS) 2697.



Infrastructure Development National Emission Test Center

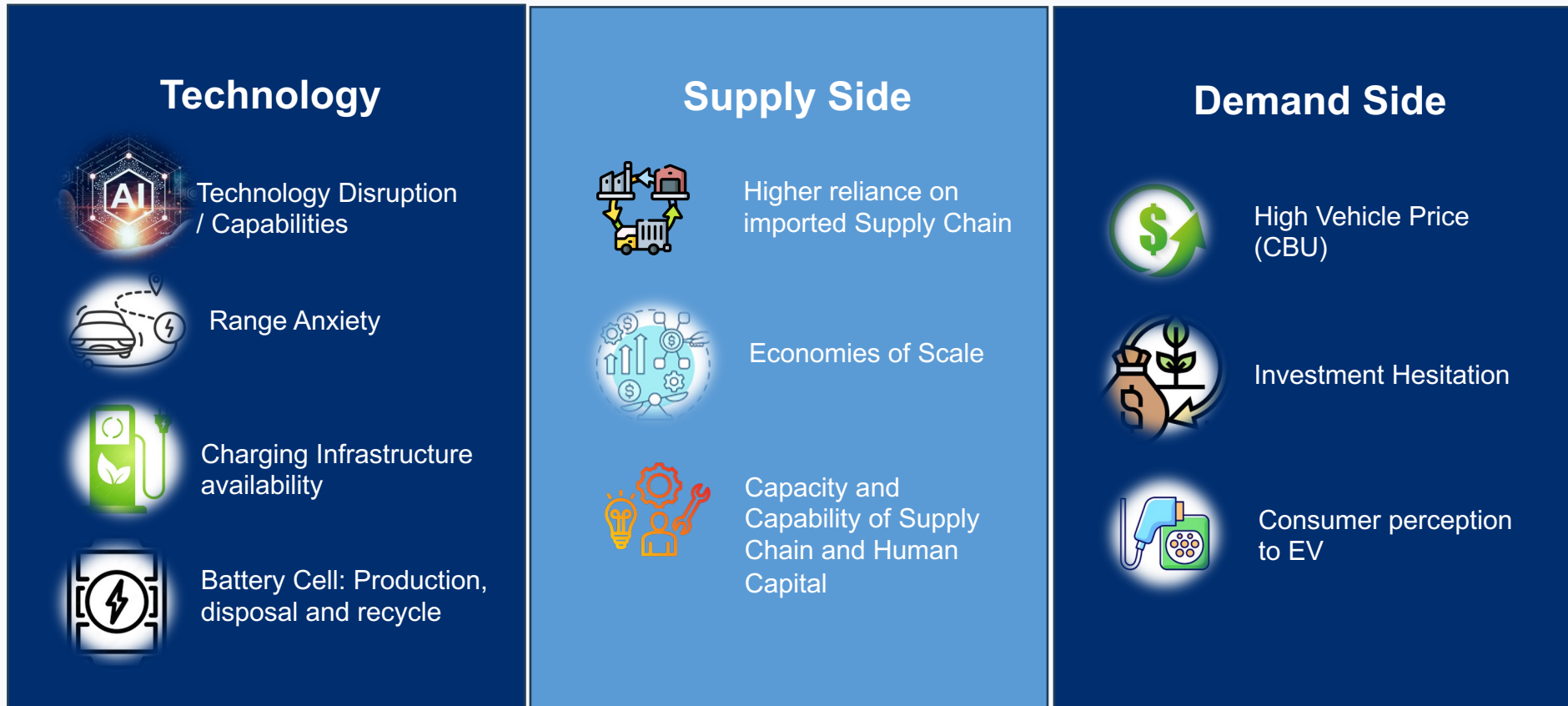


Key Services

- i. Measuring vehicle's emission pollutant (measure up to Euro 6d WLTP)
- ii. Measuring Fuel consumption
- iii. Measuring Electric Vehicle range
- iv. Measuring Energy Consumption

Conducting testing for Vehicle Type Approval (VTA), Energy Efficient Vehicle (EEV), Conformity of Production (COP) and Research and Development (R&D).

Issues and Challenges



Way Forward: Specific Measures on EV for MARii

- Promote manufacturing and application of local battery and battery packs together with the development of Battery Management System (BMS) and Thermal Management System (TMS).
- Develop standards to encourage battery swapping and wireless charging.
- Develop standards for recycling and disposal of battery.
- Conduct a feasibility study on Hydrogen Fuel Cell technology.
- Develop EV Smart Grid Interoperability Centre.
- Apply well-to-wheel concept in the calculation of emissions from EV.
- Development of CAFE standards to entice ICE to EV transition.
- Potential collaboration with insurance and banking industry to reconstruct the automotive sector and unlock new opportunities in the market.



THANK YOU



www.jpj.gov.my



JABATAN PENGANGKUTAN JALAN MALAYSIA