**ISSUE #02/2024/002** 

# MRC RESEARCH **BROADCAST**

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**COST PROJECT** 



# PAINT MATERIAL

### **MRC RESEARCH** PROJECTS 2025

### From the Research Desk...

We are pleased to present this edition of our MRC Research Broadcast, designed to keep you informed and engaged with our latest specific research, technical guidelines and latest technological developments from MRC's own research team, MRC global research partners and counterparts, or from any relevant parties.

In this edition, we are highlighting all of our current and upcoming research projects. These projects include enhancement of our existing system, new initiatives, expansion of our database and various technical research projects.

First, we are sharing our newly developed vehicle database projects, which is now include collaborations with several new vehicle manufacturers. Additionally, we are exploring potential partnerships with even more manufacturers, expanding our efforts to enhance and diversify our database.

We are also sharing our latest research initiatives, including the Vehicle Specific Research Times Project, Opinion Repair Times Project, and Paint Material Cost Project.

Besides that, we are enhancing our systems with several important developments, including the MRC Website Search Function, the Alternative Parts Price Database - Non OEM and Parts Market Guide, and the new Motorcycle Database, broadening our coverage to include two-wheeled vehicles.

We are working with various parties such as Thatcham Research for the Vehicle Risk Group Rating Project, and AutoGrab for the Vehicle Market Data Report (PAV).

We are also engaging with various agencies for collaborative studies such as ADAS Technology Effect on Claims Frequency Reduction, Malaysian Vehicle Theft Study 2025 and ASEAN NCAP Collaborative Holistic Research (ANCHOR V). Moreover, our research team is also actively participating in global platforms such as RCAR which enables us to contribute and learn from the international best practices in vehicle safety and risk assessment.

We strive to provide valuable insights and updates that reflect our commitment to excellence and industry involvement. Thank you for taking the time to read through the contents, and we hope you find it informative and enriching.

MRC RESEARCH TEAM From left: Hairul, Jamil, Yamani, Rizal, Hisyam, Jamiun, Hakeem, Hamizan, Amir, Farashiella, Hazzim, Ummi Hani and Norshamira.

#### STEVE MILLER Chief Executive Officer, MRC Malaysia



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In 2025, the research team plans to expand its parts price database by adding new manufacturers, including MG Motor, GWM, XPeng, and Aion.





Additionally, the research team is working on a collaboration with Stellantis, which oversees the sales and distribution of brands like Peugeot, Citroën, DS, Opel and Leapmotor in the Malaysian market.





The research team has successfully collaborated with several new vehicle manufacturers, especially Chinese brands. The build up project for these new vehicle models have been completed and released for the usage in claim process for JMC (Vigus Pro 2021 On), GAC (GS3 2021 On), Chery (Omoda 5 EV 2024 On, Tiggo 7 Pro 2024 On, Tiggo 8 Pro 2023 On and Omoda 5 2023 On), BYD (Atto 3 2022 On, Dolphin 2023 On, and Seal 2024 On), SMART-Geely (#1 2023 On), and Jaecoo (J7 2024 On).







### Alternative Parts Price Database -Non-OEM

As part of our continuous service to the industry, MRC Malaysia is providing the Alternative Parts Price database for compatible Non-OEM spare parts. This database is used as references in the claim processes to assist the industry in preparation of estimates especially for betterment cases. This database consists of 50 vehicle models, including Proton, Perodua, Toyota, Honda and Nissan.

For every vehicle model, the dataset consists of parts prices for an average of 50 key alternative parts and components. These parts and components are generally available in the market. This database is updated on biyearly basis and for 2024, the last update was through the MRCDB P89.0 database release.





## Alternative Parts Price Database -Parts Market Guide

Currently, MRC Malaysia is providing Franchise Parts Price database that served for vehicle manufacturers' recommended spare parts retail prices, and Alternative Parts Price database that focuses on Non-OEM spare parts prices. In addition to these existing databases, the research team is actively working on a new database called Parts Market Guide (PMG), specifically designed from user-input market parts prices, sourced from the MRC iCAP database. The user-input data from the approved claims will be extracted and analysed by a program to derive the best-suited data to be used in the market.

This initiative aims to provide a more comprehensive view of parts pricing in the market. By facilitating user participation, the database will enhance the accuracy and relevance of pricing information available. Phase 3 of this project, i.e. the development of data extraction program, is ongoing and set for completion in Q4 2024. The project will continue in 2025 with Phase 4, i.e. the development of systems update by software houses.

Once completed, this database will be used as references in the claim processes to assist the industry in preparation of estimates including betterment and other claim cases. It will provide an invaluable resource for automotive and claim professionals, enabling them to make more informed decisions based on real-world parts pricing trends.





It is MRC Malaysia's responsibility and goal to assist in the reduction of subjectivity and provides transparency in the motor insurance claims estimation and compensation, while ensuring that a professional and quality repair is carried out to vehicles in this country. Part of this responsibility is to provide the industry with informative reports related to parts prices, trends and claims.

The research team has successfully produced a comprehensive suite of reports, including the Reports on Vehicle Manufacturer Claims Data & BEV Claims, the Top 1,000 Parts Price Change, and the Vehicle Franchise Parts Price Trend Analysis Report. These reports provide critical insights into the automotive industry, analysing trends in manufacturer claims and battery electric vehicles (BEV), as well as significant fluctuations in parts pricing. These parts reports will be incorporated in MRC Business Intelligent Reporting Tools.



# **Repair Times API Webservices** (Method Advice)

MRC Malaysia has carried out the system update exercise concerning to the repair times, including the incorporation of method advice. As advised by Thatcham Research, UK, all main operations which have the method advices must be included together in order to effectively repair the main components and operations. Software houses have been advised to enhance their claims estimation system by incorporating and itemising all method advices attributed to the main operation into their estimate report.

#### What is Method Advice?

Method Advice is additional operations required to carry out the main job selected. These, once included into the times calculation with the master operation selected, will provide the total job time.

Why there is Method Advice in Thatcham Time System (TTS)?

Method Advice is included in Thatcham Times separately to:

- Reduce the size of the method documents for each operation, this then allows customers to view individual method.
- Identify to users other operations that are required to carry out the job that they may not have realised are needed.
  - description) or also other parts/panels that will require ordering and replacing.
  - ii) An example for this may be a Roof Panel being linked as a Method Advice to a Bodyside where the process to replace the Bodyside requires the removal and replacement of the Roof Panel.

#### Sample Estimate Reports

Method Advices (Associated Operation) Recommended Labo

io. Particulars	Type Others	MET
Thatcham Time 1. Bonnet 2. Bumper Front Reinforcement Panel 3. Quarter Panel RH A. Method Advices (Associated Opera 1. Tailgate R&R 1. Tailgate R&R 1. Lamp Assembly Rear RH R&R 1. Called Construction R&R 1. Called Con	New (175)	sam
M. Roomhong Haar IV. Fuel Tank R&R V. Door Rear R&R RH V. Bumper Rear R&R 4. Grille Front 5. Headlamp Assembly RH 6. Fender Front Inner Section RH A. Method Advices (Associated Ope 1. Engine & Suspension R&R	No. Particulars Thatcham Time 1. Bumper Front Reinforce 2. Bumper Front Reinforce 3. Headiamp Pariel RH 4. Fender Front RH 5. Chassis Member From A. Method Advices U 1. Engine and Su 6. Fender Front Inner Su A. Method Advices 1. Engine and Su 3. Hengine and Su 4. Dashboard R	RH Associated C opension RA ection RH (Associated uspension R anel R&R

i) This identifies if the additional operations are either just Remove & Refit (depicted by the R&R in the

anal Paint To	land	
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ple Estim	nate Report	
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	Type Others New (TTS) New (TTS) New (TTS) New (TTS) New (TTS)	MET Passel Paint Total   0.30 0.30   2.10 4.40   1.20 1.20   1.40 0.40   3.00 4.30
peration); R	Type Others New (TT5) New (TT5) New (TT5) New (TT5) New (TT5)	MET Passel Point Total   0.30 0.30   2.10 4.40   1.20 1.20   1.40 0.40   5.90 7.70   3.00 4.30   6.50 6.50   1.40 4.10
iperation): R	Type Others New (TTS) New (TTS) New (TTS) New (TTS) New (TTS) New (TTS)	MET Passel Paint Total   0.30 0.30   2.10 4.40   1.20 1.20   1.40 0.40   3.00 4.30   2.40 9.70   3.00 4.30   6.50 6.50   3.40 4.10 2.50
operation): R Operation): &R	Type Others New (TTS) New (TTS) New (TTS) New (TTS) New (TTS)	MET Passel Paint Total   0.30 0.30   2.10 4.40 6.50   1.20 1.20 1.20   1.40 0.40 5.90 7.70   3.00 6.30 2.40 9.70   6.50 6.50 6.50   3.40 4.10 2.50 10.00   6.50 6.50 3.00 3.00

### **Real Times Projects**

### **Locally Researched Vehicle Specific Times**

Prior to 2018, only composite times were used in the claim estimating process. Subsequently, MRC Malaysia introduced vehicle specific real times to enhance accuracy by matching the actual measurements, parts, components and methods. Vehicle specific real times are produced by analysing panel structures and methods review.

In collaboration with local vehicle manufacturers, the research team has continuously carried out the locally researched vehicle specific times project to replace the Thatcham composite times. To date, we have produced and completed 14 models and 114 derivatives of Proton and Perodua brands which are currently being used in the claim estimating system.

For the current projects, Chery Tiggo 8 Pro is set to be launched in Q4 2024, followed by the releases of the Chery Omoda 5 and Proton X50 in Q1 2025. Additionally, Chery Tiggo 7 and Jaecoo J7 models are expected to debut by Q3 2025, marking significant advancements in the accuracy and specificity of vehicle repair estimations.

Collaborating closely with local manufacturers, we aim to develop tailored specific real times data for a variety of vehicles. Notably, our upcoming projects include the Proton S70, set to be released in Q1 2025, followed by the Perodua Bezza in Q3 2025 and the Perodua Axia in Q4 2025.

### **Vehicle Specific Real Times Acquisition**

In addition to the locally vehicle specific research times project, the research team also acquired completed projects from Thatcham, UK for similar vehicle models in Malaysia. To date, we have acquired times data and released for 27 vehicle manufacturers, 137 vehicle models and 1,016 derivatives which are currently being used in the claim estimating system.

For the current project, we have acquired times data for 18 vehicle manufacturers, 53 vehicle models and 152 derivatives of which will be released in Q4 2024.

Currently, we have successfully covered 1,130 derivatives, or 39% of vehicles with these specific real times. Looking ahead, our goal is to increase this coverage to 50% by the end of 2025, thereby enhancing the accuracy and relevance of our data for local vehicle models.





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### **Opinion Repair Times Project**

MRC Malaysia has been utilising Thatcham Composite Times and MRC Vehicle Specific Repair Times for removal and refitting operations (R&R). However, the repair of damaged panels has mostly relied on opinion-based repair times, which can vary through negotiations.

In 2023, ARDD has conducted a study to establish reference data for opinion-based repair times, particularly focusing on SUV models. This data will facilitate the creation of an extraction program designed to minimize human intervention in the claims process, making the handling of opinion-based repair times more efficient and streamlined.

The second phase of the project involves refining the extraction program's rules, with completion expected in Q4 2024. The subsequent phase, focusing on expanding the reference data beyond SUVs, is expected to commence in 2025.

Despite the project requires considerable time and progressing gradually, as an alternative solution, MRC will consult with our partner, Thatcham Research, UK to explore any available standards or guidelines on panel repair that can be used as a reference for developing our own Opinion Repair Times database. These standards can be applied to all bodyshapes, hence reducing the project development time.

### **MRC Vehicle Information Fact Sheet**

MRC Research team has taken the initiative to create MRC Vehicle Information Fact Sheet (MVI) which provides in-depth technical information about vehicle's technical data, performance, and safety features specifications. It typically includes details such as engine type, dimensions, transmission, engine horsepower, drivetrain configuration, and all safety features equipped to the vehicle such as airbags, ABS, AEB, ESC, ADAS, and many more.

Furthermore, the MVI includes important crash safety ratings from NCAP programs conducted by various NCAP organisations, an essential element for manufacturers aiming to meet regulatory standards and enhance consumer trust.

Designed for automotive professionals, and industry players, the MVI offers a comprehensive overview of vehicle's capabilities and technical features, enabling users to assess its suitability for specific needs or applications. This document is essential for those seeking a deeper understanding of a vehicle's performance and engineering design.





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### **Paint Material Cost Project**

Aiming to enhance user services, MRC Research team has initiated the Paint Material Cost Project with the goal of integrating paint material cost data into the claims system. As part of this initiative, the research team has engaged with major paint suppliers, including PPG Coatings, Nippon Paint and Axalta. We plan to expand collaborations with additional paint brands such as Sime Kansai, DuPont, Toyo Ink, Sikkens and many more.

The project follows a multi-phase development process. Phase 1, which involved acquiring paint material cost data from PPG and Nippon Paint, has been successfully completed. Phase 2, focused on preparing data specifications and documentation is also completed. In phase 3, the MRC iCAP API retrieval program was developed for User Acceptance Testing (UAT) and has also been completed.

Currently, the project is in Phase 4, which involves system enhancements being developed by the software houses. This phase is expected to go live by the end of the year. Finally, phase 5 focuses on acquiring data from additional paint brands. The acquisition of Axalta paint materials has already been completed. This acquisition process will continue in 2025, with new brands such as Sime Kansai, Glasurit, DuPont, Toyo Ink, and Sikkens being added to the database accordingly.



### **Motorcycle Database**

MRC Malaysia is expanding its vehicle database by introducing a motorcycle database, and MRC Research team is involved in this project. This enhancement marks a significant milestone in our ongoing efforts to provide users with more extensive and accurate information about vehicle parts. Currently, data from three leading motorcycle manufacturers such as Yamaha, BMW, and Honda, are now accessible in our Parts Price Look-up (PPL) and iCAP systems.

Users can now benefit from detailed information on motorcycle parts pricing, which will streamline the claims process and enhance the accuracy of estimates. The motorcycle parts price data currently available in the PPL includes an impressive selection from Yamaha, featuring 9 models such as the 125ZR, Ego, Lagenda, Nouvo, Virago, SR-V, SS, 135LC, and RX-Z, with 16 derivatives. BMW's offerings 7 models, including the G310R, S1000RR, S1000, C400GT, F900R, G310GS, and R1200GS, with 20 derivatives. Honda contributes 5 models, including the popular EX5 Class 1, EX5 Dream, Wave 100, Wave 100R, and Wave 125, with 7 derivatives.

The motorcycle database is now ready to go live, and it is fully integrated into both iCAP and PPL systems. Software houses can begin utilising this valuable resource as soon as they complete the necessary enhancements to their estimating systems. With this advancement, MRC Malaysia continues to lead the way in optimizing the vehicle claims process, ensuring a more efficient and accurate experience for all users.



# **Group Rating** (Vehicle Risk Rating)

New materials and manufacturing techniques aimed at reducing weight and increasing stiffness introduce new challenges in terms of repairability, impacting the overall risk profile of vehicles. Moreover, the increasing connectivity of vehicles to the internet and each other introduces cybersecurity threats that pose new challenges for vehicle security and data privacy.

The gradual integration of automated driving technologies presents unique risks related to system reliability, decision-making algorithms, and human-machine interaction. Risk is moving from the driver to the vehicle; therefore, how we measure and define risk has to change.

### **MRC Website Search Function by Vehicle Manufacturers**

The MRC Website Search Function by Vehicle Manufacturers is an easy-to-use tool that helps users find information about different car brands and models available in MRC database. By allowing searches based on specific vehicle manufacturers, makes it simple to access details like the parts price latest update. This feature is useful for users to quickly locate the relevant information. This search function will be embedded in MRC Malaysia official website.





The automotive industry is undergoing a profound transformation, shifting from predominantly mechanical and hardware-defined systems to complex software-defined systems. The emergence of these advanced vehicle technologies presents intricate challenges to conventional approaches to vehicle risk assessment.

By accounting for the complexities of today's automotive innovations and the subtleties of emerging risks, the Vehicle Risk Rating model offers a more comprehensive and accurate assessment of vehicle insurability. MRC Malaysia is working with Thatcham Research, UK to promote this Vehicle Risk Rating model and to be adopted by Malaysian insurers.

## Vehicle Market Data Report (PAV)

MRC Malaysia has partnered with AutoGrab Sdn Bhd to offer a Pre-Accident Valuation (PAV) service that helps to determine fair market value of a vehicle before it was involved in an accident. This type of valuation is commonly used by insurance companies, vehicle owners, and legal professionals to assess the vehicle's worth prior to any damage, which can be crucial for settling claims or disputes related to accidents.

The pre-accident valuation typically takes into account various factors, such as:

- Make, Model, and Year: The vehicle's brand, type, and year of manufacture.
- Condition: The car's overall condition before the

accident, including mileage, maintenance history, and any modifications.

- Market Trends: The current market demand and pricing for similar vehicles in the area.
- Accident Damage: The degree of damage post-accident is compared to the vehicle's original value to determine the financial loss.

This report, which provides valuation and detailed insights into a used car's condition, can be used for insurance claims, legal settlements, or when determining the value of a vehicle for resale or repair after an accident. Also, with this transparency empowers buyers to make informed decisions and builds trust with sellers, potentially leading to quicker sales.



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Allowed Differen	e 1,682 km	Specialist tow set wheeler (not inclu	t up - 5th ided) \$1,260		
Avg Odo	41,682 km	Window tinting	\$630	Total	-\$325
Car Age	Under 10 yrs	Paint protection	\$714	RHR Quarter Scratch	\$325
Odometer Adjust	ment	Accessory Adjust	tment	Pre-Existing Damage	
Reference Guide: 0	Əlass's	Reference Code: N	IVIC	Reference Value: \$51,090	
Claim ID: TEST Reference Gu	ide Va <b>l</b> uation	Insurance Company	c=-	Vehicle Condition: Above Av	verage
Series	PX MkIII	RRP	\$60,940	Sample image only	144.515
Badge	XLT	Vehicle Odo	40,000 km		-0
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See next page for market data

rc malaysia

#### Pre-Accident Market Data Report

Market Comparison

CS D	Year 2021 Dealer Adjustr No Adju	Make Ford Starting: nents ustments	Model Ranger \$53,990	Badge XLT	Series PX MkIII	State QLD	Odo 33,843	Latest Price \$53,990 Adjusted Price
Delated	Year 2021 Private Adjustr Remov	Make Ford Starting nents e roof rac	Model Ranger : \$55,500 ks (- \$350	Badge XLT Delisted a	Series PX MkIII rt: 17/05/20:	State QLD 24 8:30:0	Odo 37,750 33 AM AEST	Delisted Price \$49,500 ● 3 ↓ Adjusted Price \$49,150
	Year 2021 Private Adjustr No Adju	Make Ford Starting nents ustments	Model Ranger : \$53,990	Badge XLT	Series PX MkIII	State QLD	Odo 42,000	Latest Price \$53,990 © 4 Adjusted Price
CS OF	Year 2021 Other Adjustr No Adju	Make Ford Starting: nents ustments	Model Ranger \$55,000	Badge XLT	Series PX MkIII	State QLD	Odo 44,000	Latest Price \$48,000 © 5 ↓ Adjusted Price

### **ANCHOR Research Projects**

The ASEAN NCAP Collaborative Holistic Research (ANCHOR) projects are managed locally by SAE Malaysia as the secretariat on behalf of ASEAN NCAP. This international collaborative research effort is funded by the FIA Foundation, Global NCAP and OEMs.

The objective of ANCHOR is to establish scientific evidence of regional characteristics towards the development of ASEAN NCAP roadmap. The ANCHOR researches are based on road accident data, research observation, field tests, and public or customer acceptance. The ANCHOR research scopes are based on 4 pillars, which are adult occupant protection (AOP), child occupant protection (COP), safety assist technology and motorcyclist safety.

MRC Research team is actively involved in ANCHOR research projects since 2018, collaborating with several ASEAN universities such as Universiti Teknikal Malaysia Melaka, Universiti Malaysia Pahang, Universitas Andalas, Bina Nusantara BINUS University, Indonesia, and Ho Chi Minh City University, Vietnam.





### **Past ANCHOR Research Projects**

#### **ANCHOR II Research on Effectiveness of BSD Technology** April 2019 – July 2020

MRC Research team has formed a strategic partnership with Universiti Malaysia Pahang (UMP) and Universitas Andalas, Indonesia, and has successfully carried out a comprehensive analysis of accident claims and statistical evaluation for cars with and without Blind Spot Detection (BSD) technology in Malaysia.





#### ANCHOR II Research on LDW and LKA based on South East Asia Environment Conditions : April 2019 – July 2020

MRC Research team has collaborated with Universiti Teknikal Malaysia Melaka (UTeM) and Bina Nusantara BINUS University, Indonesia in the evaluation of safety assist technology, in particular the Lane Departure Warning (LDW) and Lane Keep Assist (LKA) systems. The development of test protocol was performed on actual road tests with simulation of 4 environment conditions which are; Dry Daylight test, Wet Daylight test, Dry Night Time test, and Wet Night Time test.

#### ANCHOR III Research on AEB System with Varying ASEAN **Environment Conditions** May 2020 – June 2022

MRC Research team has collaborated with Universiti Teknikal Malaysia Melaka (UTeM) in the evaluation of safety assist technology, in particular the Autonomous Emergency Braking (AEB) system. The development of test protocol was performed on actual road tests with simulation of 4 environment conditions which are; Dry Daylight test, Wet Daylight test, Dry Night Time test, and Wet Night Time test.



### **New ANCHOR Research Projects**

**ANCHOR V Research on Side Impact Test Critical Location** using Statistical Data Analysis June 2024 – October 2025

MRC Research team continues to participate in the ANCHOR V 2024/2025. This collaboration with Universiti Teknikal Malaysia Melaka (UTeM) in evaluation of ASEAN NCAP Side Impact Test Critical Location (R-point) using post-accident statistical data analysis. The final result is to providing valuable solution for ASEAN NCAP Roadmap 2025-2031 for adult occupant protection (AOP).



Concurrent to the first ANCHOR V research on Side Impact analysis, MRC Research team will also carry a similar research with Universiti Teknikal Malaysia Melaka (UTeM) for the second ANCHOR V research. This research is an evaluation of ASEAN NCAP Frontal Impact Test Critical Location (real case overlap offset and delta-V) using post-accident statistical data analysis.



ANCHOR III Research on The Pattern of Occupant Injury and Vehicle Impact in Real Frontal and Rear Crashes in Malaysia May 2020 - June 2022

The MRC Research team has partnered with Universiti Malaysia Pahang (UMP) to perform a statistical evaluation on occupant injury patterns, and vehicle performance in frontal and rear accidents. This collaborative effort aims to identify key factors influencing injuries during frontal and rear collisions, thereby providing essential insights that could inform vehicle design improvements and enhance safety measures for occupants in such scenarios.



#### ANCHOR V Research on Frontal Impact Test Critical Location using Statistical Data Analysis June 2024 – October 2025

## **Research Paper #1: ADAS Technology Effect to Claims Frequency Reduction**

#### **Hypothesis**

With the higher number of vehicles fitted with ADAS system, the accident claims frequency is expected to be reduced. However, the cost of claim per vehicle is expected to be increased.

#### Objective

- To define and classify the vehicle models fitted with ADAS technology in Malaysia.
- To identify the number of vehicle fitted with ADAS technology in claims (iCAP) and its frequency.
- To study the vehicle claims cost fitted with ADAS vs without ADAS.
- The finding of this study will be presented at the RCAR Annual Conference 2025.

#### Methodology

MRC Research will conduct this study using claims extracted from iCAP for the year 2024. The car parc figure will be based on MAA TIV data from January 2023 to December 2023 (data will be available in March 2025).





## **Research Paper #2: Malaysian Vehicle Theft Study 2025**

#### Objective

#### Methodology

• To study vehicle theft cases and current trend in Malaysia.

• This study will be an added value to the propose nomination of MRC Malaysia to the Chairmanship of RCAR Cyber Security working group.

• The finding of this study will be presented at the RCAR Annual Conference 2025.

• MRC Research will conduct this study in collaboration with Insurance Services Malaysia (ISM) and Vehicle Theft Reduction Council of Malaysia Berhad (VTREC) to gather more information on vehicle theft data.

 MRC Research will also liaise with Modern Vehicle Expert group (MOVE) and Cyber Security Malaysia (CSM) to understand further on latest method or technology used by the thieves in stealing car.

 MRC Research will also look at any repo cases that adapting the technology to repossessing vehicles.

## **MRC Research Team in Global** Platform

MRC Malaysia is actively involved in the RCAR organisation, participating in various RCAR programs such as RCAR Annual Conferences, RCAR Working Groups, etc. RCAR is an international body of automotive research centres, whose primary goal is to reduce the human and economic costs of motor vehicle losses. This is done through research into improved vehicle damage resistance, reparability, security and safety. Currently, RCAR has 22 members, spanning 18 countries and five continents: Europe, Asia, North America, South America and Australia. MRC Malaysia is proud to be a member of RCAR since 2004.

RCAR provides an international forum for members to exchange information on research findings and strategies for implementation. Although research activity is conducted on a daily basis and shared throughout the year, RCAR members meet at least once a year to discuss and share topics such as the latest repair procedures and processes, industry education, safety features and new technology. All of these factors impact the cost of insuring and repairing motor vehicles.

MRC Research team is also proactively participating in several RCAR working groups, including P-Safe WG, Cyber Security WG, Reparability WG, ADAS Calibration WG, Damageability WG, and Electric Vehicle WG. Participation in these working groups offers benefits such as networking opportunities, skill enhancement, increased visibility, improved collaboration, collective problem-solving experience, shared responsibility, constructive feedback, and leadership development.



P-Safe WG



**Cyber Security WG** 

Damageability WG



Reparability WG



**Electric Vehicle WG** 





Allianz Zentrum für Technik (AZT), Germany

**Finans Norge Forsikringsdrift** / Bilskadekontoret, Norway

Folksam Sweden





The Jiken Center Co., Ltd. Japan

IAG Research Centre Australia

Spain



KTI Germany



State Farm Research

USA



**CESVI** Argentina

Insurance Institute for Highway Safety (IIHS), USA





AXA Versicherungen AG Switzerland











ADAS Calibration WG





Thatcham Research United Kingdom



Liikennevakuutuskeskus (LVK), Finland



CESVIMAP



**Generali Jeniot** Italy



**Centro Zaragoza** Spain





KIDI / KART South Korea





**CESVI Mexico** 







Samsung Traffic Safety **Research Institute, South Korea** 



**CIRI** Auto Technology Institute, China