



ASEAN MRA FOR BOOSTING FREE FLOW OF AUTOMOTIVE PRODUCTS AND INCREASE ECONOMIC BENEFICIAL INSIDE ASEAN

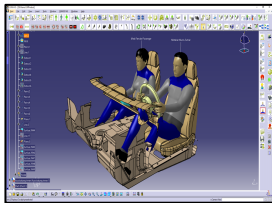
(MALAYSIA PERSPECTIVE)

**Ts. Mohd Sharulnizam Bin Sarip
Chief Operating Officer (COO)**

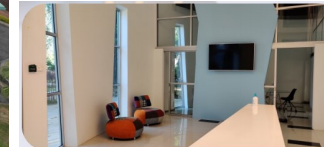
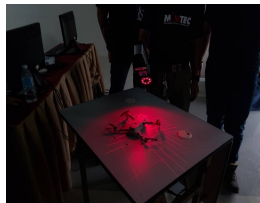
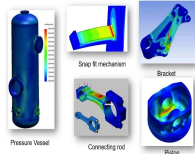


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INTRODUCTION - MARii



Linear Static Analysis



MARii Additive Technology Centre (MAMTEC)

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

MARii Simulation & Analysis Centre (MARSAC)



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)

TÜV Rheinland Malaysia Sdn. Bhd.
JPJ Designation ECE Code: 52/D



CERTIFICATE OF COMPLIANCE

National Emissions Test Centre (NETC)
Lot 29139, Sek 20, Bandar Serendah, 48200 Serendah,
Hulu Selangor, Selangor, Malaysia

Has been assessed in accordance with the internationally recognized standard
ISO/IEC17025:2017
General Requirements for the Competence of Testing and Calibration Laboratories
With the Scope of:
Automotive Emission and Fuel Consumption Testing
(see Annex for the detailed scope)

Certification number: 250113293
Certificate Issue Date: 18/01/2023
Certificate validity: 17/01/2024



Signed for and on behalf of TÜV Rheinland Malaysia Sdn Bhd:



Manfred Lottig

This certificate demonstrates that the laboratory mentioned above complies with the requirements of ISO/IEC 17025:2017, however it does not imply or infer that accreditation has or shall be issued in accordance with this standard.

ISO/IEC 17025:2017

E52

MALAYSIA

DESIGNATION OF TECHNICAL SERVICES

Road Transport Department (JPJ) of Malaysia, as the competent Administrative Department (Type Approval Authority) for Malaysia, to grant approvals for vehicles, technical units and components as mentioned in the 1958 Agreement of the World Forum For Harmonization of Vehicle Regulations (WP29).
Herewith designates the Technical Service:


NATIONAL EMISSION TEST CENTRE (NETC),
Lot 29139, Seksyen 20, Bandar Serendah,
48200, Serendah, Hulu Selangor, Selangor Darul Ehsan
Malaysia

The UN Regulations covered by this designation as follows:

- 1) Emission of Pollutants Based on Engine Fuel Requirements (UN R83); and
- 2) Emission of CO2 and Fuel Consumption – Passenger Car (UN R101).

The Technical Service falls into the category of activities, as **Category A**: which carry out the tests referred to in the UN Regulations in their own facilities.

Designation number : JPJ. BKA.100/13/6 Jilid 3 (5)
ECE Code : 52 / H
Validity ends : 30th September 2024
Place : Putrajaya, Malaysia
Date :
Signature :



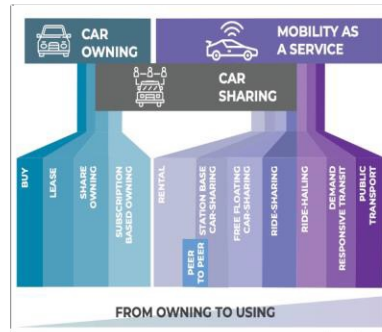
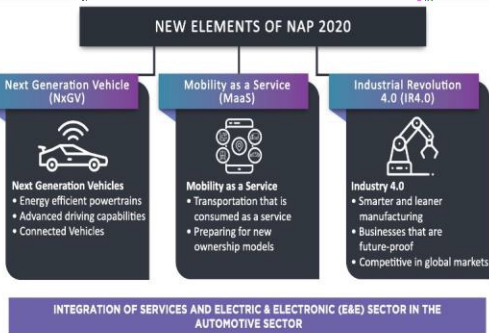
DATO' ZAILANI HASHIM
Director General
Road Transport Department of Malaysia

Road Transport Department of Malaysia
Level 3-5, No. 8030
Persiaran Per
Federal Gover
62100 Putrajaya

Vehicle Approval and Information
8030
8030

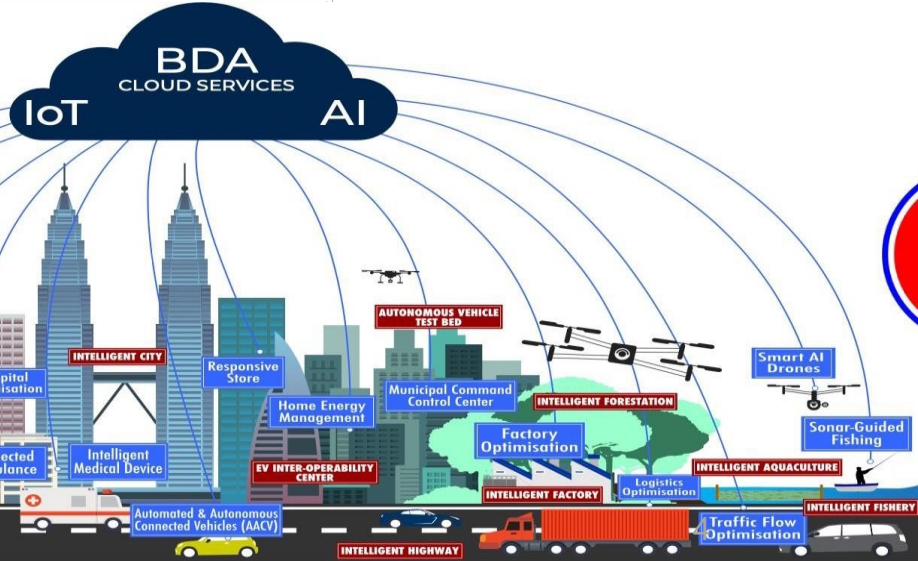
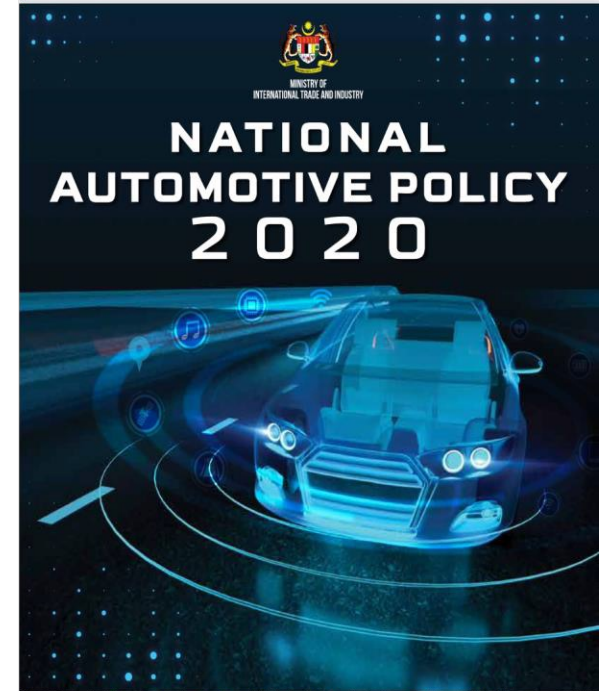
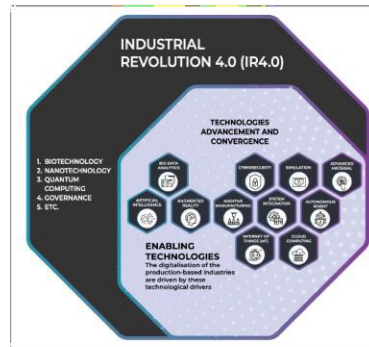
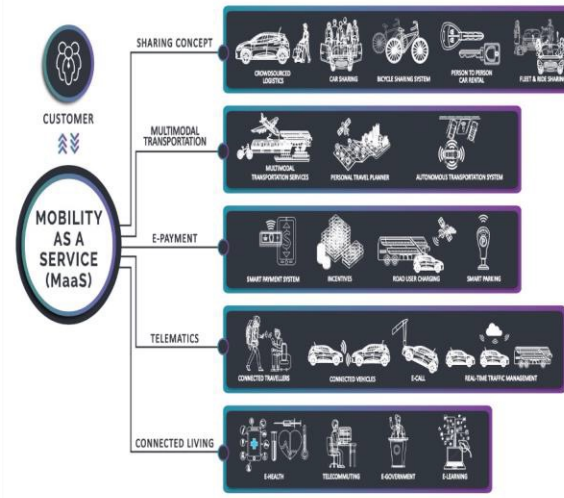
TECHNICAL SERVICE E52

INTRODUCTION – NATIONAL AUTOMOTIVE POLICY (NAP)



CLASSIFICATION

- MaaS is a concept created to integrate various types of services and transport modes into an efficient and centralised mobility service.
- MaaS provides a wide range of transportation options such as a combination of public transport services and private vehicles, besides enabling users to enjoy other services such as optimised product delivery services, online health diagnostics and others.



- Align key ASEAN Target :
- 5.3L/100km FC Average by year 2025
 - ASEAN MRA
 - ATIGA



KEY ASEAN AGREEMENTS

ASEAN TRADE IN GOODS AGREEMENT (ATIGA)



ASEAN Trade in Goods Agreement



- **ASEAN Trade in Goods Agreement (ATIGA)** is a comprehensive agreement to promote the free flow of goods within ASEAN
- ATIGA is one of the main agreements under **Pillar 1: Single Market and Production Base** (one of four main pillars) for the ASEAN Economic Community 2015
- ATIGA is valid for **all ASEAN Member States** (10 countries)
- ATIGA also covers details in **Tariff Reduction schedules**, i.e. a pathway towards eliminating trade tariffs across the ASEAN region

ATIGA aims to promote trade in the region by reducing barriers to intra-ASEAN trade in the following ways:

- A** **Eliminate import duties and tariffs** of all goods (with some exceptions¹) to 0% by 2015
- B** **Redefine Rules of Origin** to increase trade between ASEAN countries
- C** **Standardize Customs Clearance Processes** to ensure predictability, consistency and transparency among Member States
- D** **Facilitate Trade** through the ASEAN Single Window (ASW)
- E** **Reduce non-tariff barriers** through harmonization of standards

Full document can be download from the ASEC website:

<https://asean.org/references-other-documents-on-asean-free-trade-area/>

ASEAN MUTUAL RECOGNITION ARRANGEMENTS FOR AUTOMOTIVE PRODUCTS (APMRA)

- **The ASEAN Consultative Committee on Standards and Quality (ACCSQ)-Automotive Product Working Group (APWG)** held a Special Meeting (henceforth known as “The Meeting”) on 20 Jan 2021
- The Meeting was preceded with the 1st ASEAN Automotive Committee (AAC) Meeting on 19 Jan 2021.
- The AAC was established upon signing of the APMRA, when the last AMS, Myanmar, signed the **APMRA** on **16 Jan 2021 in Nay Pyi Taw, Myanmar.**
- APMRA has entered into force on 15 January 2022.
- Ratification of the APMRA by AMS is in progress:
 - Thailand submitted its IOR on 19 July 2021
 - Viet Nam on 13 January 2022, and
 - Myanmar on 31 May 2022.
 - **Malaysia** on **31 July 2023**
- The status on the ratification of APMRA can found at: <http://agreement.asean.org/agreement/detail/380.html>

Member States	Update on the APMRA ratification
Brunei Darussalam	Brunei Darussalam have conducted domestic consultation and have submitted the document to the Attorney General Chambers for clearance on ratification of APMRA. Once it received approval from the Chamber, Brunei Darussalam will update the ASEAN Secretariat.
Cambodia	Submitted the APMRA to the Council of Ministers and expected to submit the IOR/ION in 2023.
Indonesia	Indonesia is in the midst of the process of ratification.
Lao PDR	the ratification has been submitted to the Prime Minister Office for approval, prior to submission to the national assembly for subsequent approval. The ratification is expected to be completed by 2023.
Philippines	In the process of national consultation.
Singapore	In the process of securing IOR for the APMRA.

ASEAN MUTUAL RECOGNITION ARRANGEMENTS FOR AUTOMOTIVE PRODUCTS (APMRA) IN GENERAL - 1

CONTENT	SUMMARY (30 pages of MRA)
Background	Goals of establishing ASEAN as a Single Market, free flow, more dynamic and stronger segment of the global chain and world economy
Article 1 - Objective	ASEAN Cooperation, Create single market, mutual arrangement, capacity & capability building
Article 2 - Definition	Elaborate main terms in the MRA – align with WP29
Article 3 – General	Recognition of results, UNR compliant
Article 4 – Scope	Facilitate MRA, Inspection/testing – not apply to remanufacturing
Article 5 – Institutional Arrangement	AAC establishment - guideline for details implementation
Article 6 – Monitoring of Technical Service (TS)	Designating Bodies/Regulatory Authorities to monitor and responsible for the nominated TS
Article 7 – Listing of TS	DB/RA opt to nominate TS according to the process flow
Article 8 - Competence	DB/RA to ensure that the nominated TS is competent
Article 9 - Compliance	TS to comply with ISO 17025, 17021 & 17020 (according to category)
Article 10 - Suspension	Flow for Suspension or Withdrawal

ASEAN MUTUAL RECOGNITION ARRANGEMENTS FOR AUTOMOTIVE PRODUCTS (APMRA) IN GENERAL - 2

CONTENT	SUMMARY (30 pages of MRA)
Article 11 – Implementation	Member States to strengthen cooperation , market surveillance
Article 12 – Preservation of RA	Member States is allowed to accept other standards but not to refuse ASEAN MRA T&C
Article 13 - Confidentiality	Member States to ensure the confidentiality of documents
Article 14 - Annexes	Annexes to the MRA is part of the Arrangement
Article 15 - Settlement	Member States to agree on interpretation and application of MRA
Article 16 - Depositary	Member States need to notify acceptance to ASEAN Secretary General
Article 17 - Review	Review to be conducted in 4 th year of MRA entry into force (EIF)
Article 18 - Amendments	Amendments, Main MRA – Member States, Annexes by AAC
Article 19 - Reservations	No reservation of any provisions
Article 20 - EIF	Depositary or one year after signing
Annex 1 - List	UNR applicable list – 19 UNR (Phase 1)
Annex 2 – TS Requirements	ISO compliance and roles each organisation
Appendix – TS Assessment	Principle, Skills, Flow, Report, Surveillance

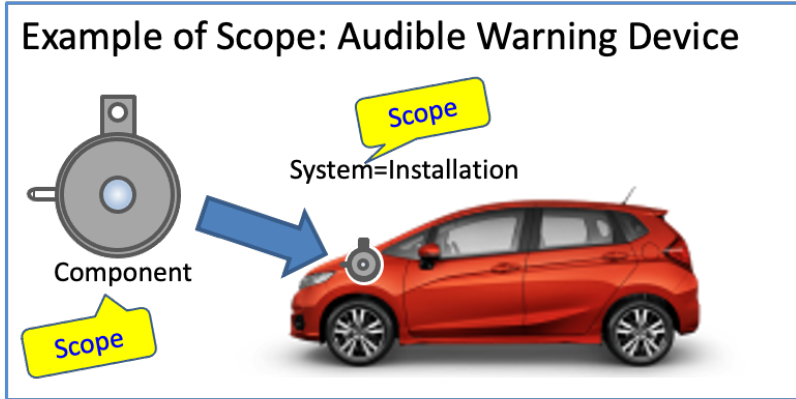


APMRA GUIDANCE DOCUMENT

(ASEAN-JAPAN COOPERATION)

SCOPE OF APMRA APPLICATION

Scope of Application: **Systems and Components** for categories M1, N1, L1, L2, L3, L4 and L5



Scope of Application Category		Out of Scope of Application Category	
M1		M2, M3	
N1		N2, N3	
L Category (L1~L5)		O	

Regulation: Applicable regulation list in Supplementary Provision I

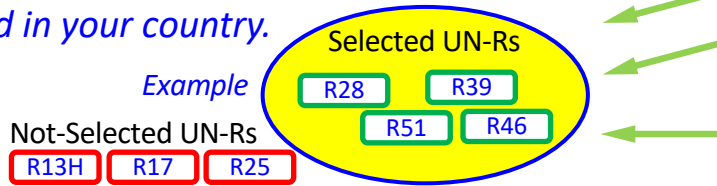
UN Regulations	Product	Series	M1	N1	L1,L2,L3,L4 and L5
R13	Braking system	11		X	
R13H	Braking system	01	X	X	
R17	Seats	08	X	X	
R25	Head restraints	04	X	X	
R28 Component	Audible Warning Device	00	X	X	X
R28 Installation		00	X	X	X
R39	Speedmeter	01	X	X	X
R46 Component	Devices for Indirect Vision	04	X	X	
R46 Installation		04	X	X	
R51	Noise Emission	03	X	X	
R79	Steering	03	X	X	
R14	Seat-belt anchorages	06	X	X	

UN Regulations	Product	Series	M1	N1	L1,L2,L3,L4 and L5
R16 Component	Seat-belt	06	X	X	
R16 Installation		06	X	X	
R30 Component	Pneumatic tyre	02	X	X	
R40 or EU Regulations 134/2014	Exhaust Emission	01 (Future R40)			X
R41	Noise	04			X
R43 Component	Safety glazing Materials	01	X	X	
R43 Installation		01	X	X	
R49	Exhaust Emission	05	X	X	
R54 component	Pneumatic tyre	00		X	
R75 Component	Pneumatic tyre	00			X
R83	Exhaust Emission	Euro 4 (R83 05) /Euro 5	X	X	

Rights of the ASEAN Member State: Regulation related items

a) AMS shall not necessarily be required to demand conformity with all UN Regulations to motor vehicles, as set forth in Annex 1 of the APMRA.

Commentary: It is possible for AMS to select only some of the UN regulations set out in Annex 1 as the Regulations required in your country.

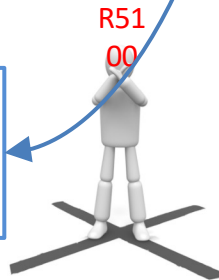


e) AMS applying UN regulations may refuse to grant and to accept the precedent series of UN Regulations prescribed in Annex 1 of the APMRA.

Commentary: Any series earlier than the series of UNRs in Annex 1 may be rejected by AMS.

Example : R51 Noise Emission

MS may refuse to grant and to accept Series 00 of UN-R51 because Series 03 is listed in Annex 1



Regulation: Applicable regulation list in Annex 1



UN Regulations	Product	Series	M1	N1	L1,L2,L3,L4 and L5
R13	Braking system	11		X	
R13H	Braking system	01	X	X	
R17	Seats	08	X	X	
R25	Head restraints	04	X	X	
R28 Component	Audible Warning Device	00	X	X	X
R28 Installation		00	X	X	X
R39	Speedometer	01	X	X	X
R46 Component	Devices for Indirect Vision	04	X	X	
R46 Installation		04	X	X	
R51	Noise Emission	03	X	X	
R79	Steering	03	X	X	
R14	Seat-belt anchorages	06	X	X	
R16 Component	Seat-belt	06	X	X	
R16 Installation		06	X	X	
R30 Component	Pneumatic tyre	02	X	X	
R40 or EU Regulations 134/2014	Exhaust Emission	01 (Future R40)			X
R41	Noise	04			X
R43 Component	Safety glazing Materials	01	X	X	
R43 Installation		01	X	X	
R49	Exhaust Emission	05	X	X	
R54 component	Pneumatic tyre	00		X	
R75 Component	Pneumatic tyre	00			X
R83	Exhaust Emission	Euro 4 (R83 05) /Euro 5	X	X	

Rights of the ASEAN Member State: Technical Service related items

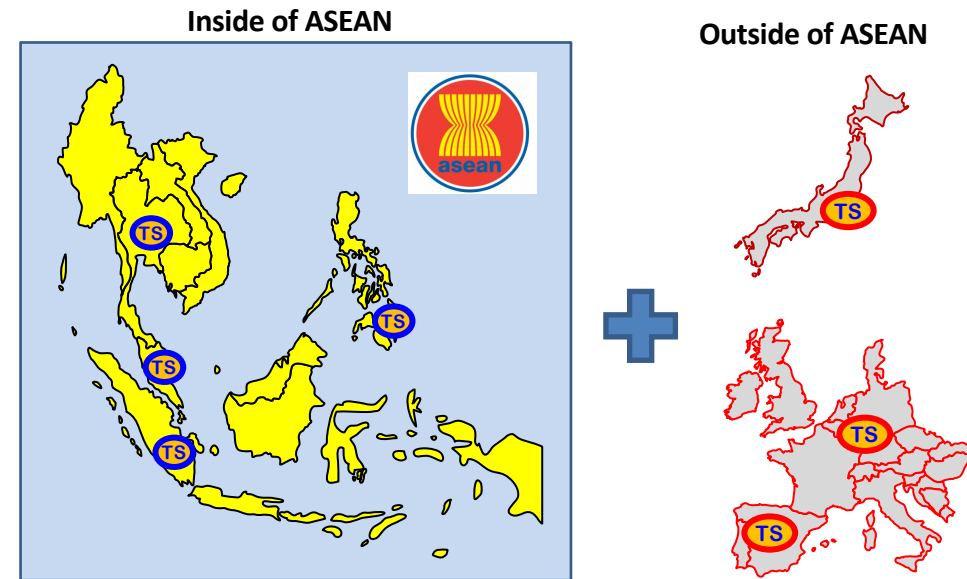
b) AMS may develop own Technical Service (TS). On the other hand, AMS shall not be required to have a TS.

Commentary: AMS may or may not have its own TS.

c) AMS may preferentially designate a Technical Service (TS) located in the ASEAN region. However, AMS may concurrently designate a TS located outside of the ASEAN region.

Commentary: AMS may designate Technical Services (TS) located in the ASEAN region as a priority.  And AMS may also designate TS outside of ASEAN. 

Designation of Technical Service by AMS



Rights of the ASEAN Member State: National Regulation related items

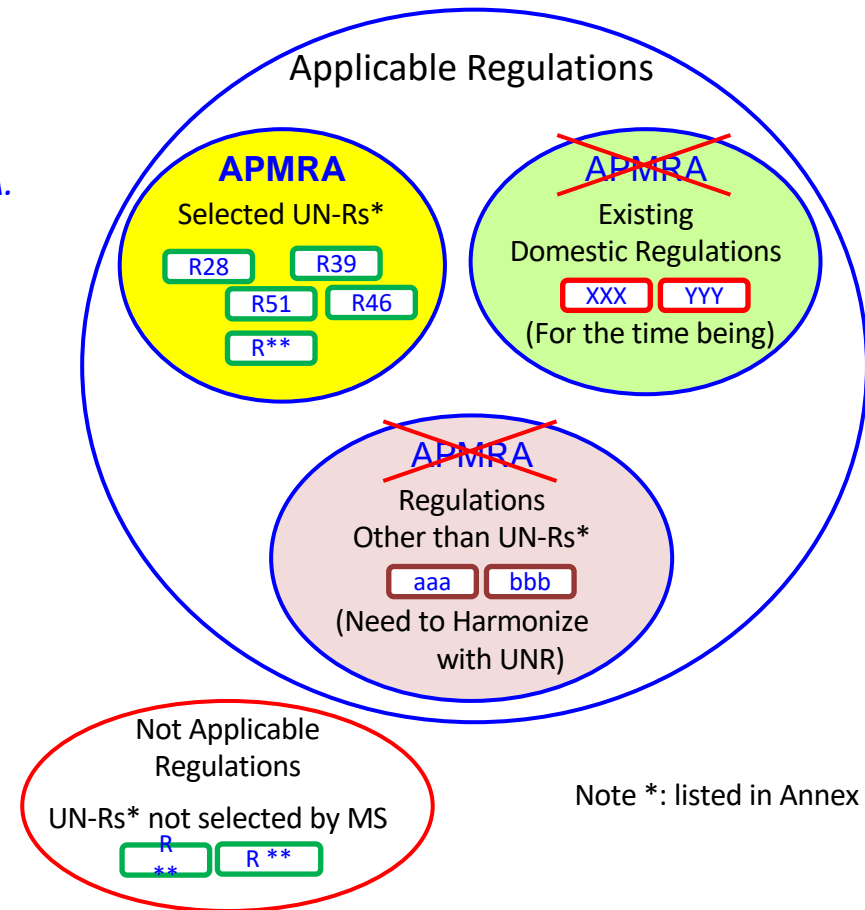
d) AMS may keep existing domestic regulations as an alternative to the UN Regulations for the time being. In such cases, the APMRA shall not be applied to the alternative domestic regulations.

- Commentary:
- UN-R is the only Regulation that should be applied to APMRA.
 - AMS may keep existing current domestic regulations for the time being.
 - APMRA shall NOT be applied to domestic regulations.

f) AMS may establish environmental and safety regulations other than the UN Regulations, as set forth in Annex 1 of the APMRA. However, in light of the addition of the UN Regulations to the Annex 1 of the APMRA in the future, AMS shall harmonize the regulations with the UN Regulations.

- Commentary: AMS may establish the regulations other than the UN-Rs. However, AMS shall harmonize the regulation with the UNRs.

Image of Applicable Regulations in a MS

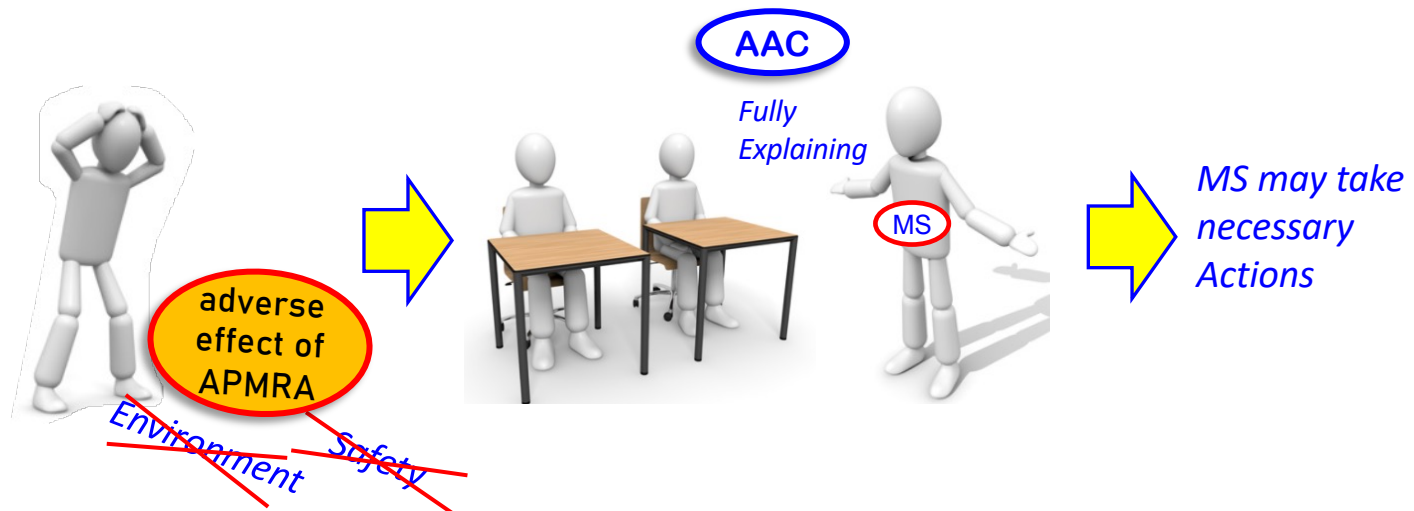


Note *: listed in Annex 1

Rights of the ASEAN Member State: Actions for adverse effect of APMRA

g) In the event that AMS has confirmed that the matters set forth by the APMRA or the administration thereof could have serious adverse effects on safety or the environment, it may take whatever action that is necessary promptly, upon fully explaining its actions to the AAC.

- Commentary:
- If AMS has confirmed that the related matter(s) of APMRA could have serious adverse effects on safety or environment,
 - AMS may take the necessary actions promptly after fully explaining the situation to AAC.



Obligations of the AMS:

Obligation to make effort to achieve the purpose of APMRA

e) AMS shall not impose its own regulations that would impede the free circulation of motor vehicles and/or motor vehicle components within the ASEAN region, which is the intended purpose of the APMRA, and make efforts toward the realization of harmonization of standards and the mutual recognition of the results of conformity assessments within the ASEAN region.

- Commentary:*
- Free circulation of motor vehicles and/or components within ASEAN region is the intended purpose of the APMRA
 - AMS shall not impose its own regulations that would impede the free circulation of motor vehicles and/or components within the ASEAN region
 - AMS shall make efforts toward follows within the ASEAN region;
 - the realization of harmonization of standards
 - the mutual recognition of the results of conformity assessments

APMRA

Free Circulation of Motor Vehicles, Components within ASEAN



~~Not imposing by AMS to make Domestic Regulations which Impeding free circulation~~

Making Efforts by AMS toward

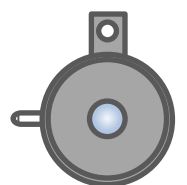
- Mutual recognition of conformity assessments Results
- Realization of harmonization of standards for UN-R

Obligations of the AMS:

Preventing obstacles to acceptance of the conformity assessment results

a) After the APMRA has come into effect, AMS shall not refuse the automotive products have results of the conformity assessment issued by the Listed Technical Service (TS) or already UN Regulations compliant according to the APMRA, the product can enter and be marketed in the importing AMS without being subjected to re-testing, re-inspection or certification of management systems in the importing AMS, even if it is incorporated in a vehicle, where it has confirmed a serious adverse effect, as set forth in APMRA.

Automotive Products



Component

System



Conformity
Assessment
Results
by Listed TS

and/or

UN-R
Compliant
Test Report,
Certificate
(Component)

AP-Products can be Entered and
Marketed

Commentary:

Importing AMS shall accept AP-Products
without subjecting follows;

- ~~• Re-testing~~
- ~~• Re-inspection~~
- ~~• Certification of
Management system~~

Note: Upon the request by Regulatory Authority (RA)-Host* Country, AAC may request additional documents from RA-Home* Country. (Reference from Supplementary Provision II)

(* Host Country means Importing Country / Home Country means Exporting Country.)

Importing AMS



Obligations of the AMS:

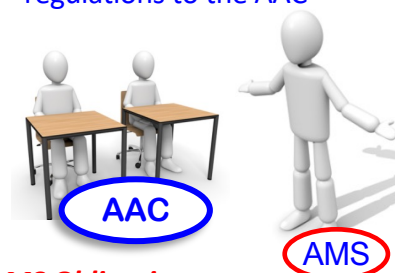
Preventing obstacles to acceptance of the conformity assessment results

b) AMS, when accepting the results of the conformity assessment issued by the Listed Technical Service (TS) in accordance with the provision of the APMRA, shall not retest against that conformity assessment result according to the UNRs (set out in Annex 1 of APMRA) related to the component equipment or system. In case. items that require testing of a national regulation that are different from the corresponding UNR, those different items must be additionally tested to meet the national regulation in Annex 1 of the APMRA.

[Related item] PART 1 INTRODUCTION 1. Background
1.6. Further testing maybe required according to the existing domestic regulation of each AMS and if such AMS should inform and verified the need to the AAC. Such additional requirements should be clearly declared and listed in the Guidance Document. AMS that has proposed the additional requirements should, however, align them with the agreed UNRs in the APMRA soonest possible and have them remove.

Image of actions

AMS should inform and verified the need of National regulations to the AAC



AMS Obligation:

- **AMS Shall not retest against the result of UNRs**
- **National regulation is soonest possible and have them remove (Replace to UNR)**

APMRA Guideline

List of APMRA Annex1

Harmonized 19 UNRs

Additional National Regulations

National regulation should be clearly declared and listed in the Guidance Document

Conformity assessment result by listed TS

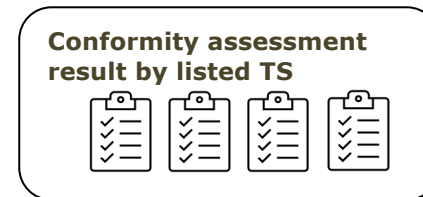


Commentary: AMS, when accepting the conformity assessment results issued by the Listed Technical Service (TS), shall not demand retests relating to equipment or systems provided for in the UN Regulations in Annex 1.
On the other hand, if there are items that require testing under existing national regulation that differ from the requirements of the corresponding UNR, additional testing shall be done to meet the existing national regulation.
In addition, those additional test items shall be listed in Annex 1 of the APMRA.

Obligations of the AMS: Preventing obstacles to acceptance of the conformity assessment results

c) AMS, in the event that it discovers a law that would impede the acceptance of the results of the conformity assessment issued by the Listed Technical Service (TS) in accordance with the provisions of the APMRA, shall promptly revise such law.

d) AMS, in the event that it discovers domestic screening procedures or approval procedures that would impede the acceptance of the results of the conformity assessment issued by the Listed Technical Service (TS) in accordance with the provisions of the APMRA, shall promptly remediate such procedures.



Submitted

- Law that would impede the acceptance of the results
- Domestic screening procedures or approval procedures that would impede the acceptance of the results



AMS Obligation:

- Promptly revise such law
- Promptly remediate such procedures

Commentary: • AMS is obliged to promptly **revise the domestic law** and/or **remediate the domestic screening procedures** that impede the acceptance of the results of the conformity assessment issued by the Listed Technical Service (TS)

Condition for Reciprocal Recognition: Principle of “Worst-casing”

SUPPLEMENTARY PROVISION II Condition for Reciprocal Recognition

2. The Regulatory Authority (RA) shall apply the principle of "worst-casing", by selecting the variant or version from the specified type that for the purpose of testing will represent the type to be approved under the worst conditions.

The decisions taken along with their justification shall be recorded in the approval documentation.

However, the applicant may select, in agreement with the approval Regulatory Authority (RA), a vehicle, equipment or parts which, while not representative of the type to be approved, combines a number of most unfavourable features with regard to the level of performance required by the UN Regulations (worst-casing).

Virtual testing methods may be used to aid the decision-making on the selection of the worst-case.

- Commentary:*
- *“Worst-casing” is the principle for selecting the variant/version to be tested as representative of the type to be approved (in a MS) .*
 - *Applicants may select a vehicle, equipment/parts which is not representative of the type to be approved (in a MS) but represents by “Worst-casing” selection of UN Regulations.*

Condition for Reciprocal Recognition:

Principle of “Worst-casing” in 1958 Agreement

1958 Agreement Revision 3

Procedures for UN type approvals

1. Application for and conduct of UN type approval

1.6. Compliance with the requirements laid down in the UN Regulations shall be demonstrated by means of appropriate tests performed on wheeled vehicles, equipment and parts which are representative of the type to be approved.

The approval authority shall apply the principle of "worst-casing", by selecting the variant or version from the specified type that for the purpose of testing will represent the type to be approved under the worst conditions. The decisions taken along with their justification shall be recorded in the approval documentation.

However, the applicant may select, in agreement with the approval authority, a vehicle, equipment or parts which, while not representative of the type to be approved, combines a number of most unfavourable features with regard to the level of performance required by the UN Regulations (worst-casing). Virtual testing methods may be used to aid the decision-making on the selection of the worst-case.

Condition for Reciprocal Recognition: Example of “Worst-casing”

Example 1: 1 Vehicle Type sold in Country A

Vehicle Type	Version	Sold Country	Worst Case	Test	Version in NTA Application	Test data in Application	NT-Approval
Type A	Version 1	Country A			Country A		Country A
	Version 2	Country A	X	X	Country A	X	
	Version 3	Country A			Country A		

Example 2: 1 Vehicle Type sold in Country A and B and different Versions are sold in each country

Vehicle Type	Version	Sold Country	Worst Case	Test	Version in NTA Application	Test data in Application	NT-Approval
Type A	Version 1	Country A			Country A		Country A*
	Version 2	Country A			Country A		
	Version 3	Country A			Country A		
	Version 4	Country B			Country B		Country B
	Version 5	Country B	X	X	Country B	X	
	Version 6	Country B			Country B		

Note *: Applicant needs the agreement for worst-casing with Approval RA in Country A

Roadmap for Implementation of ASEAN MRA

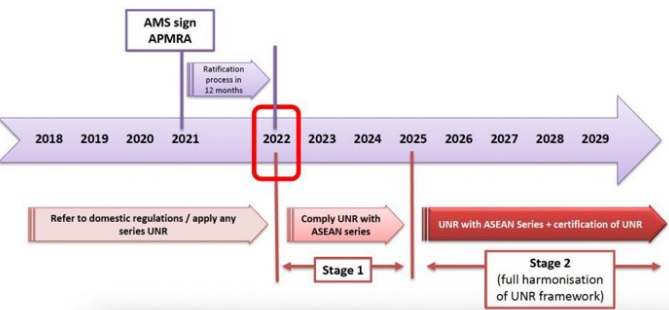
- The current harmonization for implementation of APMRA shall be based on the technical requirements of UN-R. Each AMS shall commit towards harmonization of the 19 UN-Rs as per timeline agreed by the APWG.**
- The harmonisation for 10 UNRs (R13, R13H, R17, R25, R28, R39, R41, R46, R51, and R79) will be implemented in stages based on ASEAN Series starting in 2021 or the date of entry into force of the APMRA.**

- Commentary:**
- Each AMS shall proceed with the harmonization of the 19 UNRs according to the schedule agreed upon by APWG.
 - The harmonized 19 UNRs are implemented in 3 separate phases.
 - First 10 UNRs has already started from 2022 with agreement at APWG.
 - Remaining 6 and 3 UNRs will start from 2023 and 2024 respectively.

Note : AMS shall not necessarily be required to demand conformity with all UNRs. (See Preamble)

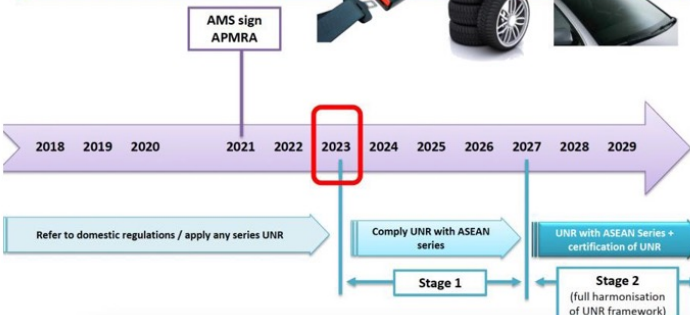
1st Phase: 2022~

Draft Timeline
 All 10 UN Regulations : R13, R13H, R17, R25, R28, R39, R41, R46, R51 & R79 will be implemented based on ASEAN's agreed series **starting from 2022 or on official date of entry into force of the APMRA;**



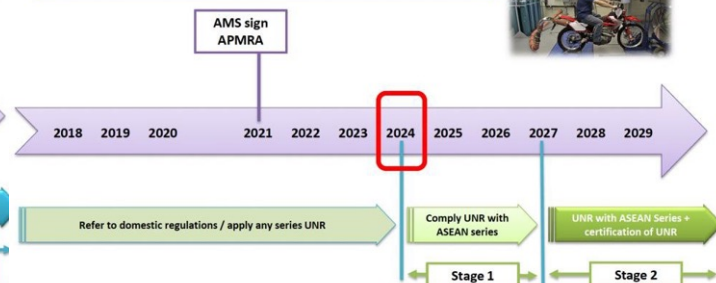
2nd Phase: 2023~

Draft Timeline
 All 6 UN Regulations : R14, R16, R30, R43, R54, R75 will be implemented based on ASEAN's agreed series **starting from 2023 or 1 year from official date of entry into force of the APMRA;**



3rd Phase: 2024~

Draft Timeline
 All 3 UN Regulations : R40, R49 & R83 will be implemented based on ASEAN's agreed series **starting from 2024 or 2 years from official date of entry into force of the APMRA;**

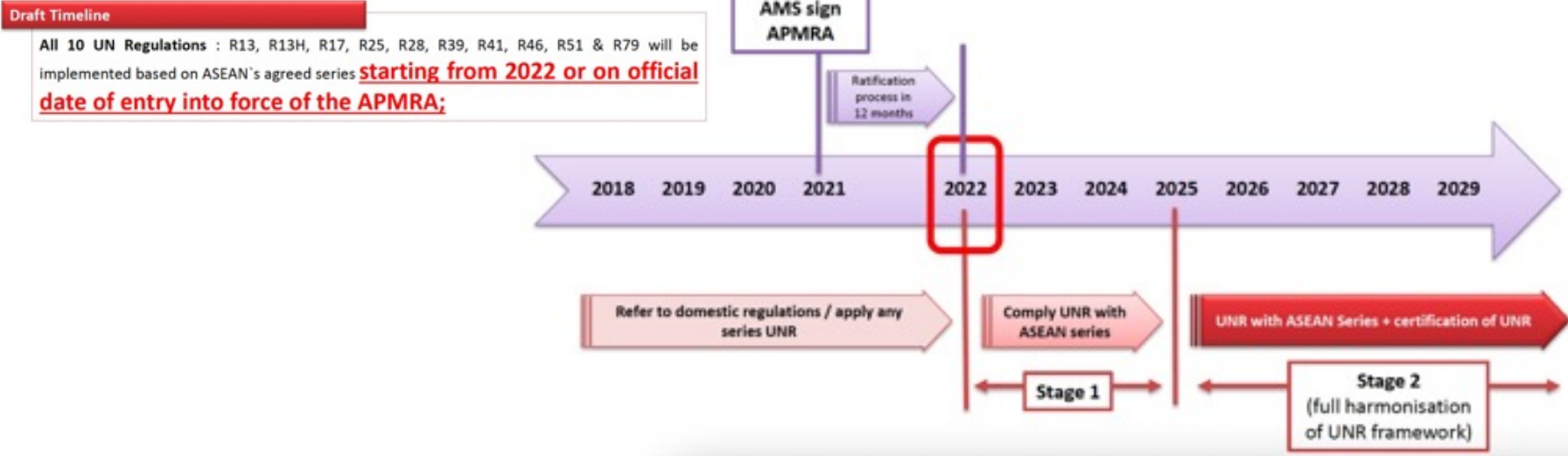


Roadmap for Implementation of ASEAN MRA

3. Conceptually, the roadmap for the implementation of ASEAN MRA is divided into two stages: stage 1 adoption of UNRs with agreed ASEAN series by test report, stage 2 adoption of UNRs by full harmonisation with UNR certification.

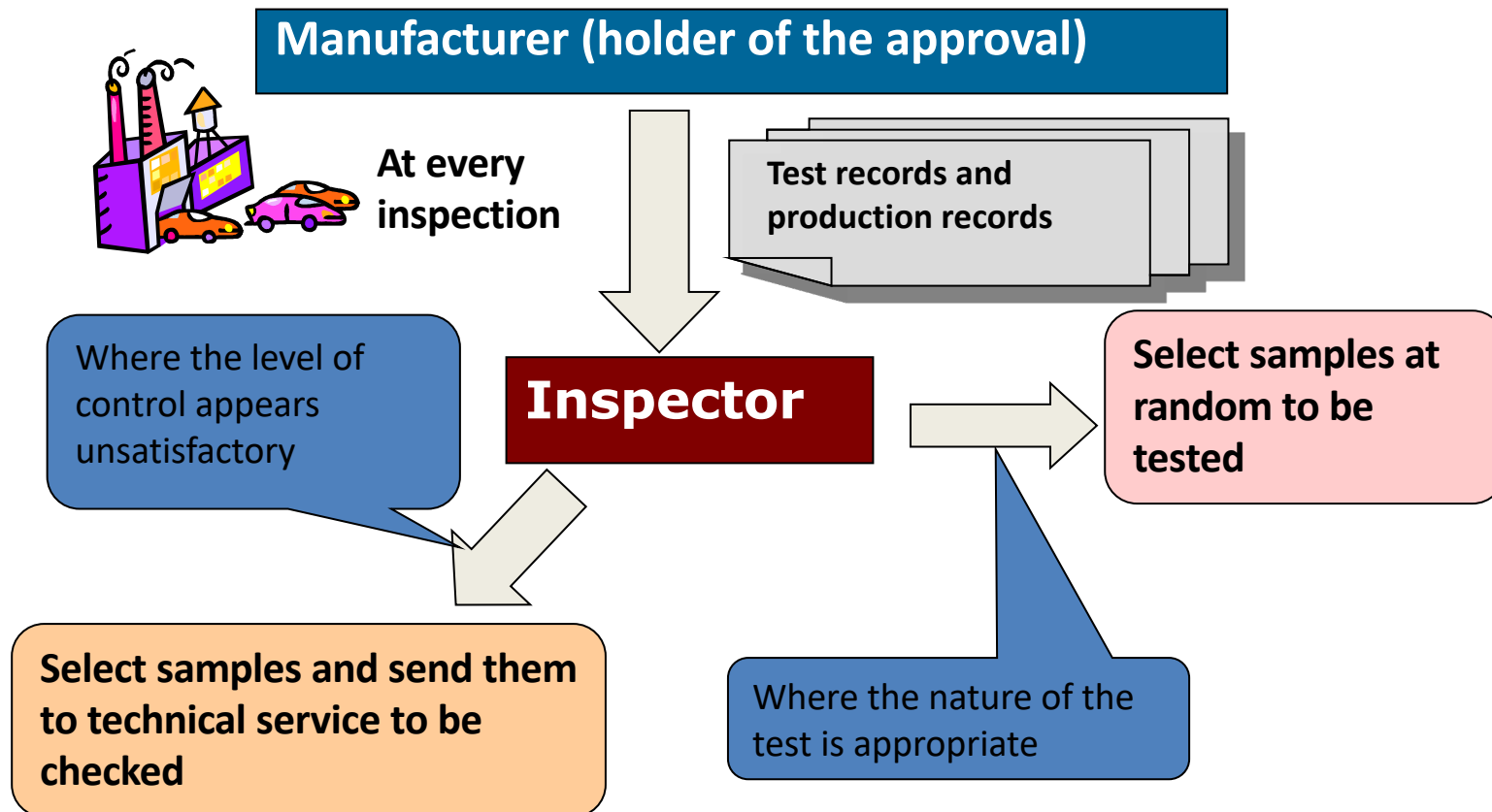
- Commentary:
- As a concept of MRA implementation, the documents used as the conformity assessment result for each UNR are divided into two stages.
 - Stage 1: The test report can be used as the conformity assessment result.
(The UNR certificate (with test report) can be also used as the conformity assessment result.)
 - Stage 2: The UNR certificate (with test report) can be used as the conformity assessment result.

1st Phase: 2022~



Other: Conformity of Production is out of scope of APMRA

APMRA does Not require, at the time of entry into force of the MRA, any Conformity of Production (COP) procedures by manufacture's which is assessed, monitored, supervised and performed tests by the Technical Service.



Screening Procedures by Means of Results of Conformity Assessments

MAIN PROVISIONS 4. Screening Procedure Flow Diagram

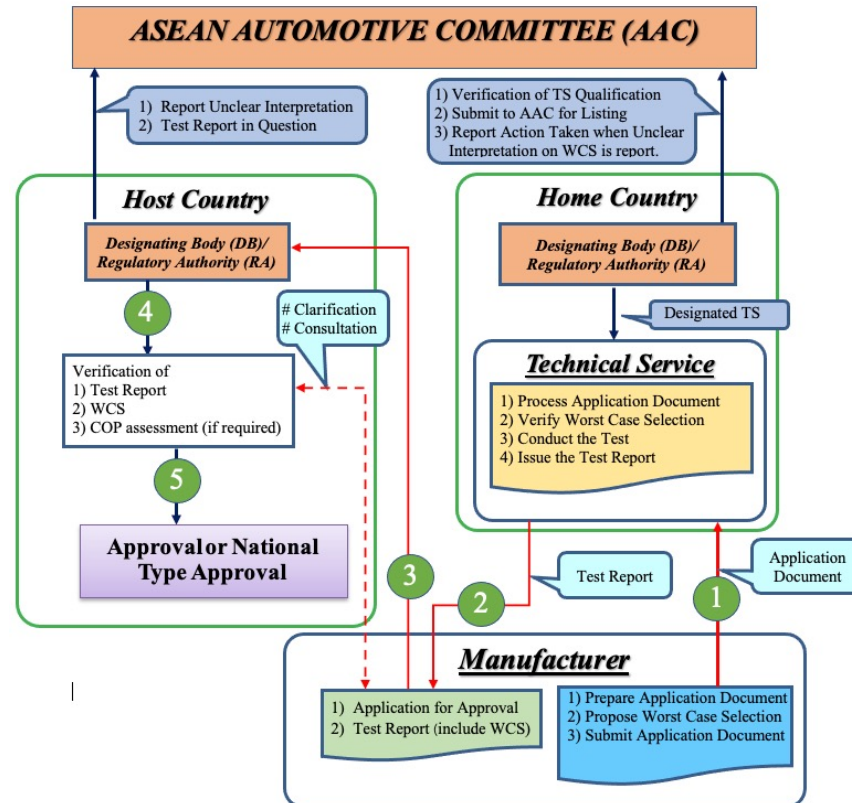


Figure 1: Application/Approval Process Flow

Supplementary Provision III : Case Study for APMRA Implementation

3.1 Case Study for the Scope of APMRA depends on difference of Vehicle/Component manufactured area 1/3

Vehicle	Component Parts (components, systems)	Explanation Material
Vehicles manufactured Inside ASEAN	Parts manufactured Inside ASEAN	Case-1
	Parts manufactured Outside ASEAN	Case-2
Vehicles manufactured Outside ASEAN	Parts manufactured Inside ASEAN	Case-3
	Parts manufactured Outside ASEAN	Case-4

Figure 2 illustrated a vehicle that is manufactured inside ASEAN and using automotive products (tyre) that also manufactured inside ASEAN.



- (1) Vehicle is **within the scope** of APMRA
- (2) Automotive Products (Tyre) is **within the scope** of APMRA

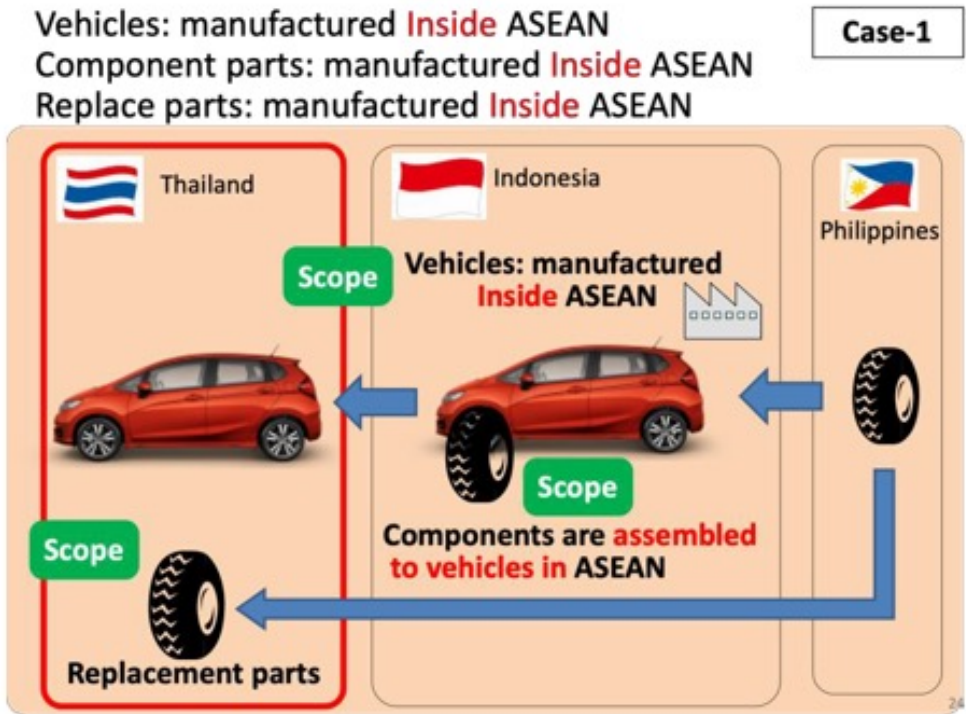


Figure 2: Case-1

Supplementary Provision III : Case Study for APMRA Implementation

3.1 Case Study for the Scope of APMRA depends on difference of Vehicle/Component manufactured area 2/3

Vehicle	Component Parts (components, systems)	Explanation Material
Vehicles manufactured Inside ASEAN	Parts manufactured Inside ASEAN	Case-1
	Parts manufactured Outside ASEAN	Case-2
Vehicles manufactured Outside ASEAN	Parts manufactured Inside ASEAN	Case-3
	Parts manufactured Outside ASEAN	Case-4

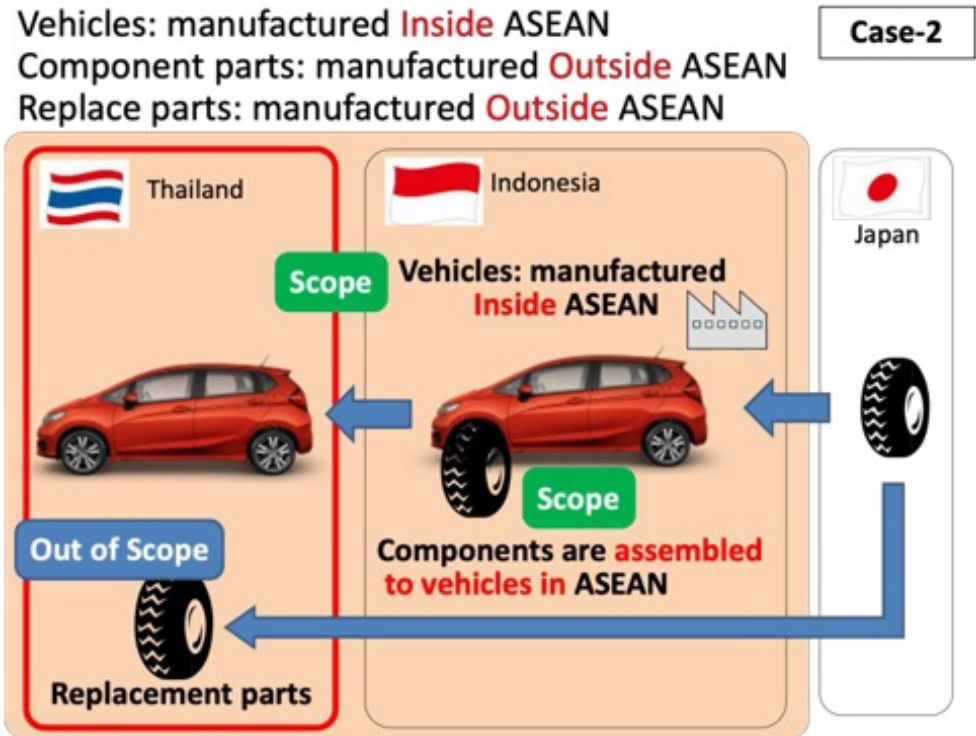


Figure 3 : Case-2

Figure 3 illustrated a vehicle that is manufactured inside ASEAN and using automotive products (tyre) that also manufactured outside ASEAN (Japan).



- (1) Vehicle is **within the scope** of APMRA
- (2) Automotive Products (Tyre) is **out of the scope** of APMRA

Supplementary Provision III : Case Study for APMRA Implementation

3.1 Case Study for the Scope of APMRA depends on difference of Vehicle/Component manufactured area 3/3

Vehicle	Component Parts (components, systems)	Explanation Material
Vehicles manufactured Inside ASEAN	Parts manufactured Inside ASEAN	Case-1
	Parts manufactured Outside ASEAN	Case-2
Vehicles manufactured Outside ASEAN	Parts manufactured Inside ASEAN	Case-3
	Parts manufactured Outside ASEAN	Case-4

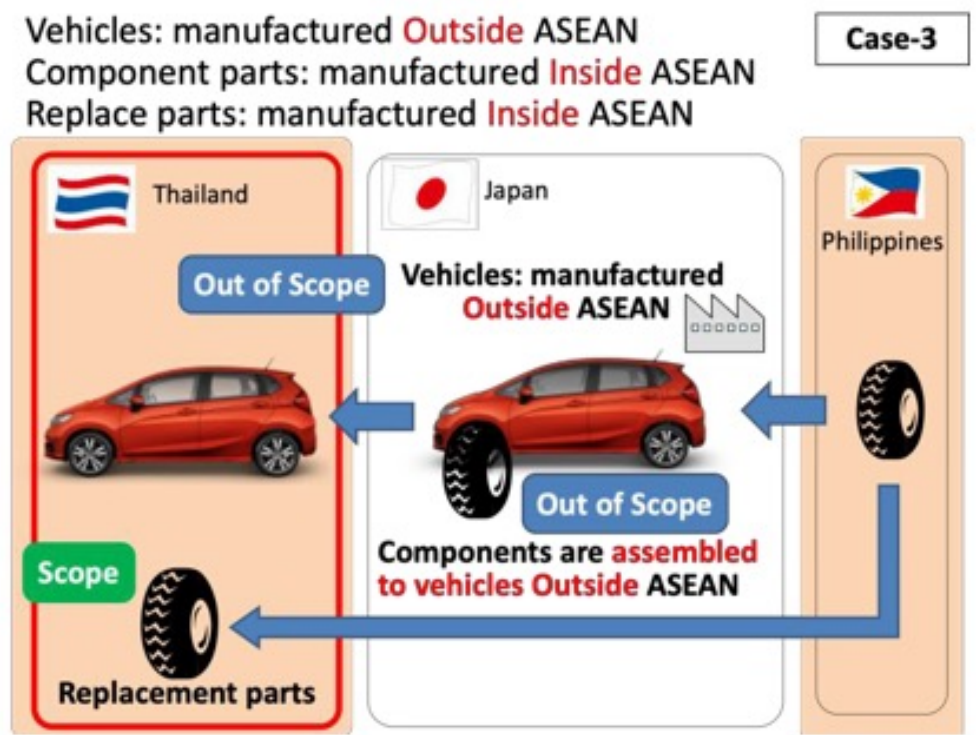


Figure 4 : Case-3

Figure 4 illustrated a vehicle that is manufactured outside (Japan) and using automotive products (tyre) that is manufactured inside ASEAN (Philippines).



- (1) Vehicle is **out of scope** of APMRA
- (2) Automotive Products (Tyre) is **within the scope** of APMRA

Supplementary Provision III : Case Study for APMRA Implementation

3.2 Case Study for the Prohibition of refusal to accept APMRA test reports issued by other MS

Figure 5 illustrated a vehicle that is manufactured and tested in one of the member states, e.g Indonesia and a test report has been issued by Indonesia.

Subject to the requirements stipulated in the ASEAN MRA, the other member states, e.g Thailand and Vietnam, shall not refuse the test report issued by Indonesia.



According to APMRA, MSs shall not refuse the test report issued by other MS

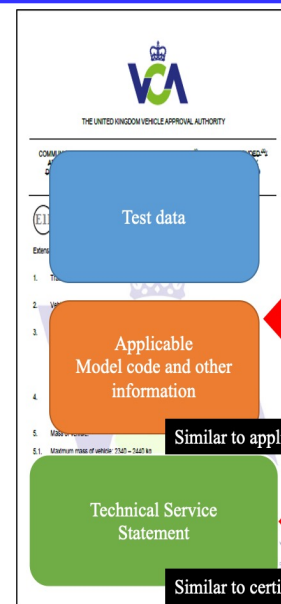
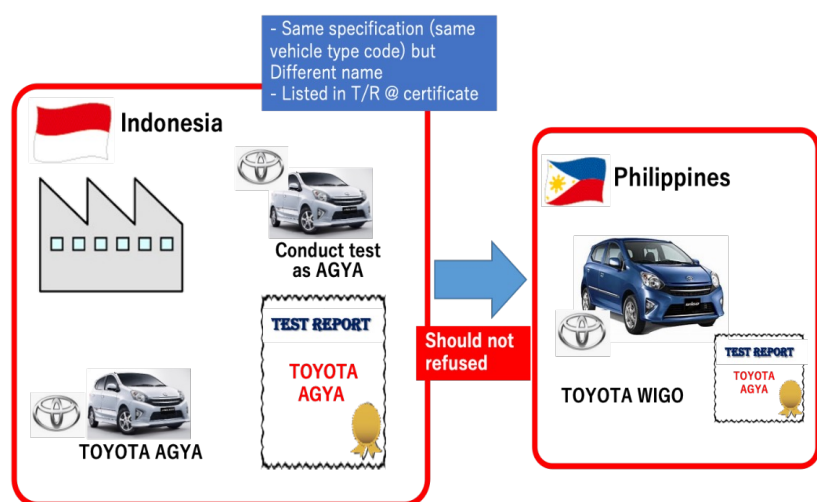


Figure 5: Case-4 Issue of Country of Origin of Automotive Products

Supplementary Provision III : Case Study for APMRA Implementation

3.3 Case Study for the Prohibition of refusal to accept APMRA test reports when different model names in different countries

Figure 6 illustrated a vehicle model with same specification but using different product name is introduced in a member state, e.g Indonesia. The same vehicle is intended to be exported to a member state, e.g Philippines. If the specification is exactly the same, and it is endorsed by the listed Technical Service, this vehicle shall not be refused to enter the Philippines market.



Tested data is NOT for only model A. Information for other introduced models are necessary to be covered by this test.

Ex) Model name and Applicable model :
Toyota AGYA- Model A (ID), tested
Toyota Wigo - Model B (PH)
 Service Brake : Front : Disc, Rear : Drum
 Parking Brake : Mechanical, integrated into Rear one
 ABS : Yes

Ex) **※ No specification change, same vehicle type.**
※ XXXX, Technical service hereby to endorse that this test report can covered xxx.

Ex) Above mentioned applicable model with specification can comply with UN-R13 technical requirements based on this test report.

certified by xxxx, Technical service dated on xxxx

Figure 6 : Issue of Model product name is different between the MSs

MS shall not refuse to enter the vehicle by the reason which is different model product name in other MS.

All model product names shall be mentioned in the Test report

Supplementary Provision III : Case Study for APMRA Implementation

3.4 Case Study for the Prohibition of refusal to accept APMRA test reports for E-making products

Figure 7 illustrated Automotive products which already acquired E marking, e.g Malaysia that intend to be exported to Thailand and Indonesia with ASEAN MRA Test Reports. In this case, Thailand and Indonesia shall not refuse ASEAN MRA test report issued with E-marking embedded at the automotive products.



MS shall not refuse APMRA test report issued with E-marking embedded at the automotive products

- Marking is one of Technical requirement under UN R, additional marking should not require.
- Harmonize marking should be E-mark as per scope of ASEAN MRA

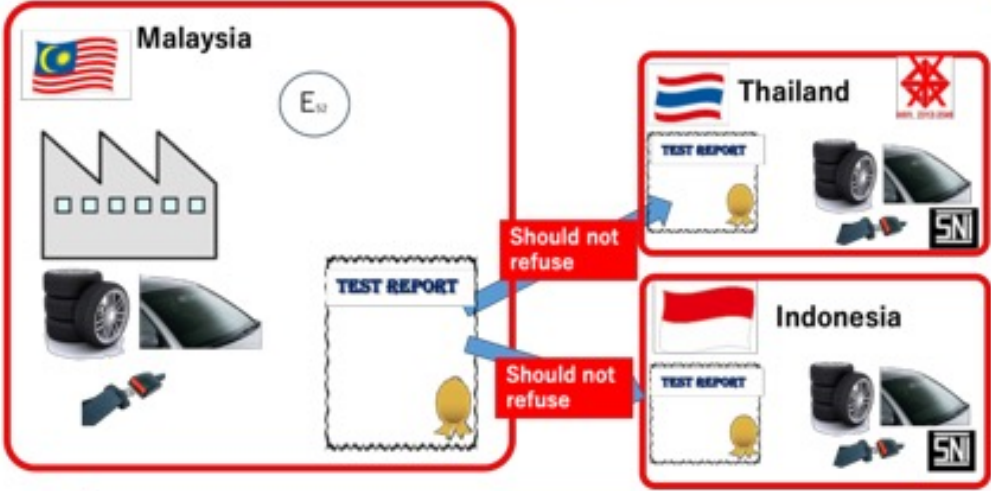


Figure 7 : Issue of E-marking harmonisation

Supplementary Provision III : Case Study for APMRA Implementation

3.5 Case Study for the Prohibition of refusal to accept APMRA test reports where complex electrical function requirements have been omitted and approved by AMS

Figure 8 illustrated the example of Automotive Products i.e Brakes that complied with the UN Regulations requirements, the requirements of complex electrical functions and regenerative brakes have been omitted, and already been endorsed by Thailand. In this regards, subject to the requirements of APMRA, the additional testing shall not be imposed and the product shall be accepted in Philippines and Vietnam.



In case, complex function requirement for UNRs listed in APMRA has been omitted in MS, the additional testing shall not be imposed and the product shall be accepted in other MSs.

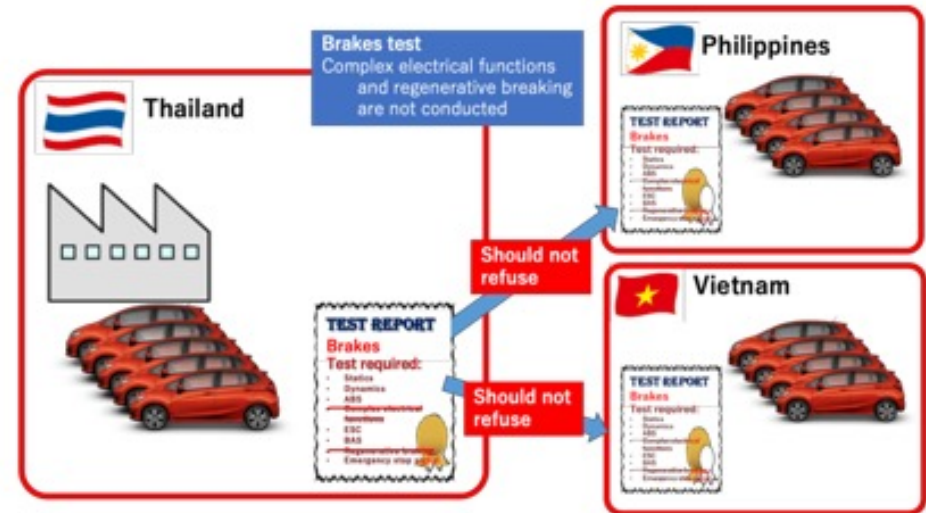


Figure 8 : Issue of Complex Electrical Functions Certification

Supplementary Provision III : Case Study for APMRA Implementation

3.6 Case studies on how to deal with difficulties in complying with the requirements due to the inconsistency of vehicle category interpretations in different countries

Figure 9 illustrated the vehicle category interpretation, i.e pick-up has been categorized as Passenger Car but is in compliance with N1 requirements.

Such vehicle may enter Indonesia and Malaysia as N1 category compliance regardless it will be registered as commercial or passenger vehicle.

If there are difficulties to comply with this requirement, the issue shall be elevated to AAC for technical decision.

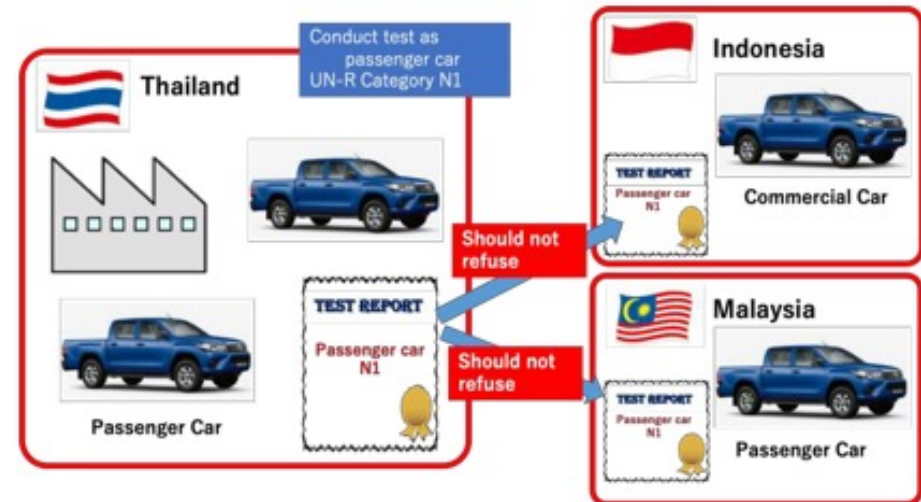


Figure 9 : Issue of inconsistency of vehicle category interpretation

Supplementary Provision III : Case Study for APMRA Implementation

3.7 Case studies about difference of country of origin and Technical Service (UN-R28 as an Example) 1/6

Figure 10 illustrated Automotive products which:

- ◆ Component parts is produced inside ASEAN,
- ◆ Vehicle is produced inside ASEAN,
- ◆ Technical Service of vehicle system is located inside ASEAN designated by DB/RA under AAC according to ASEAN MRA. ,
- ◆ Technical Service of Parts is located inside ASEAN designated by DB/RA under AAC according to ASEAN MRA.

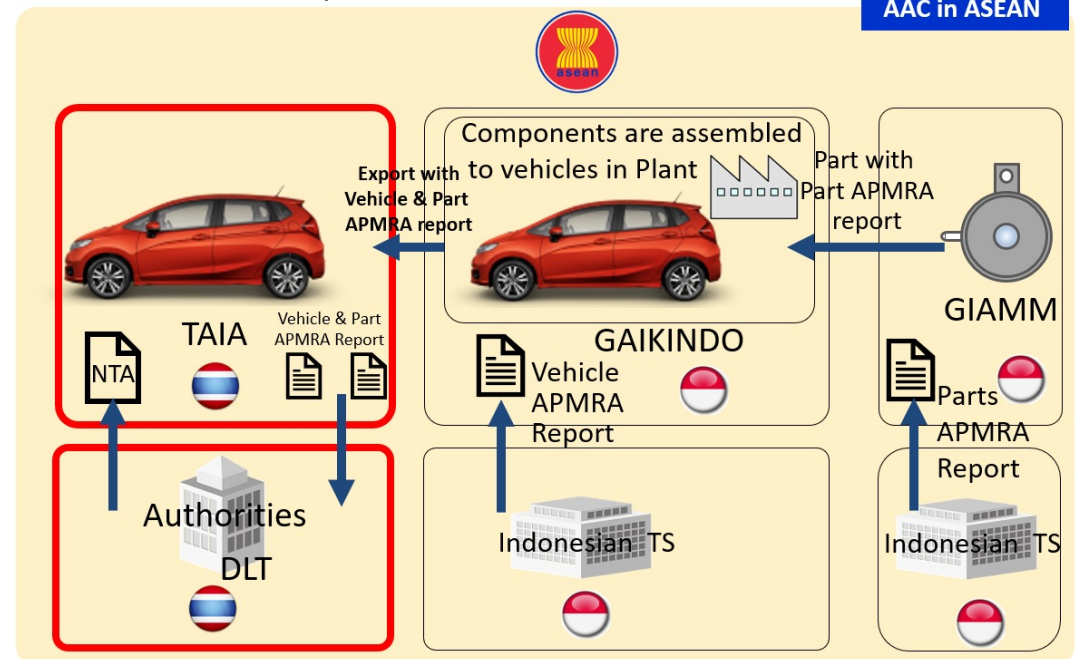


- (1) Parts APMRA Report can be issued by designated Technical service.
- (2) Parts APMRA Report can be accompanied with system APMRA Report and shall be accepted for granting National Type Approval (NTA) of vehicle system.

Vehicles: Produced in ASEAN
 Component parts: from ASEAN
 Technical Service of parts: in ASEAN

Sample-1

Registered TS by AAC in ASEAN



Supplementary Provision III : Case Study for APMRA Implementation

3.7 Case studies about difference of country of origin and Technical Service (UN-R28 as an Example) 2/6

Figure 11 illustrated Automotive products which:

- ◆ Component parts is produced inside ASEAN,
- ◆ Vehicle is produced inside ASEAN,
- ◆ Technical Service of vehicle system is located inside ASEAN designated by DB/RA under AAC.
- ◆ However, Technical Service of Parts is located outside ASEAN designated by DB/RA under AAC according to ASEAN MRA Annex2 Paragraph 7.



- (1) Parts APMRA Report can be issued by this designated Technical Service.
- (2) Parts APMRA Report can be accompanied with system APMRA Report and shall be accepted for granting National Type Approval (NTA) of vehicle system.

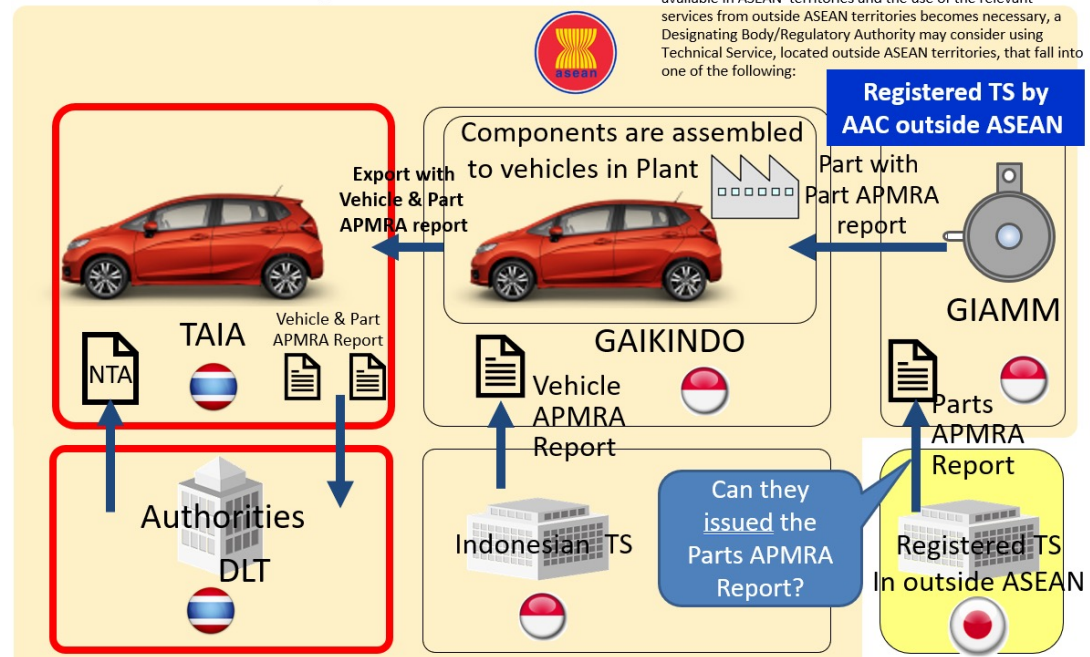
ASEAN MRA Annex 2

7. A Designating Body/Regulatory Authority shall, as much as possible, give priority to using and designating Technical Service(s), located in ASEAN territories and the use of the relevant services from outside ASEAN territories becomes necessary, a Designating Body/Regulatory Authority may consider using Technical Service(s), located outside ASEAN territories, that fall into one of the following:
- Technical Service(s) that is accredited in accordance with the provisions of Article 9 of this Arrangement which is relevant to the activities it carries out; or
 - Technical Service(s) that are registered under the 1958 Agreement which is relevant to the activities it carries out.

Vehicles: Produced in ASEAN
 Component parts: from ASEAN
 Technical Service of parts: outside ASEAN

According to Agreement Annex 2 paragraph 7 Sample-2

In cases where the required Technical Services are not readily available in ASEAN territories and the use of the relevant services from outside ASEAN territories becomes necessary, a Designating Body/Regulatory Authority may consider using Technical Service, located outside ASEAN territories, that fall into one of the following:



Supplementary Provision III : Case Study for APMRA Implementation

3.7 Case studies about difference of country of origin and Technical Service (UN-R28 as an Example) 3/6

- Figure 12 illustrated Automotive products which:
- ◆ Component parts is produced inside ASEAN,
 - ◆ Vehicle is produced inside ASEAN,
 - ◆ Technical Service of vehicle system is located inside ASEAN designated by DB/RA under AAC .
 - ◆ However, Technical Service of Parts is located in any countries registered by UNECE (under 1958 Agreement).

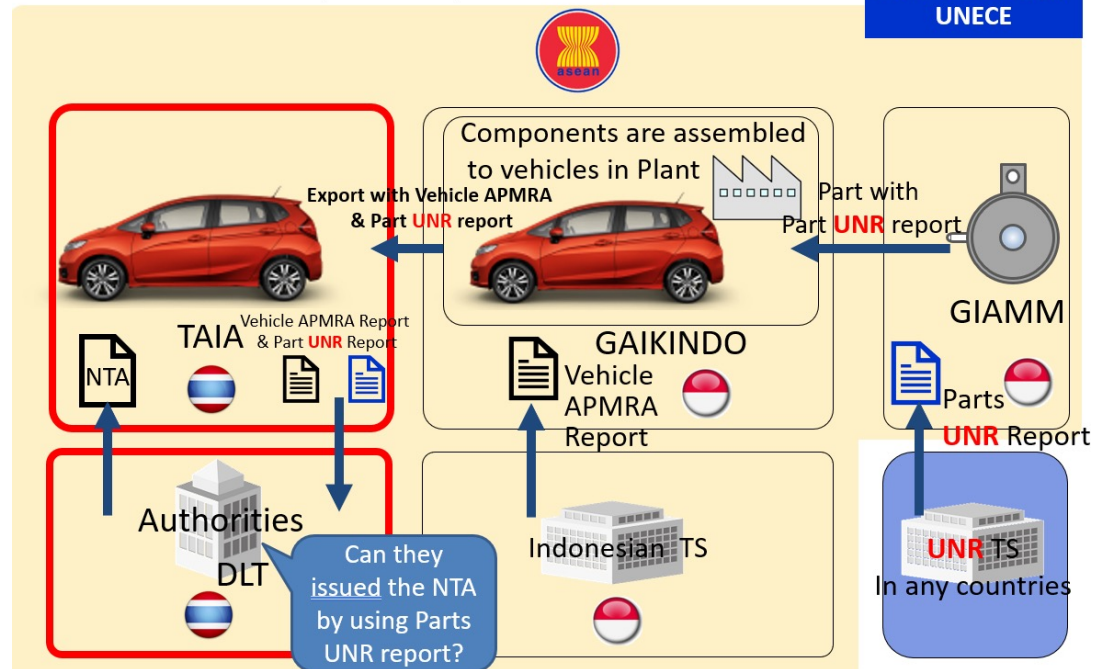


Part UNR Certificate issued by Technical Service registered by UNECE (under 1958 Agreement) can be accompanied with system APMRA Report and shall be accepted for granting National Type Approval (NTA) of vehicle system.

Vehicles: Produced in ASEAN
 Component parts: from ASEAN
 Technical Service of parts: any countries for UN

Sample-3

Registered TS by UNECE



Supplementary Provision III : Case Study for APMRA Implementation

3.7 Case studies about difference of country of origin and Technical Service (UN-R28 as an Example) 4/6

Figure 13 illustrated Automotive products which:

- ◆ Component parts is produced outside ASEAN,
- ◆ Vehicle is produced inside ASEAN,
- ◆ Technical Service of vehicle system designated by DB/RA under AAC according to ASEAN MRA,
- ◆ Technical Service of Parts are located inside ASEAN designated by DB/RA under AAC according to ASEAN MRA.

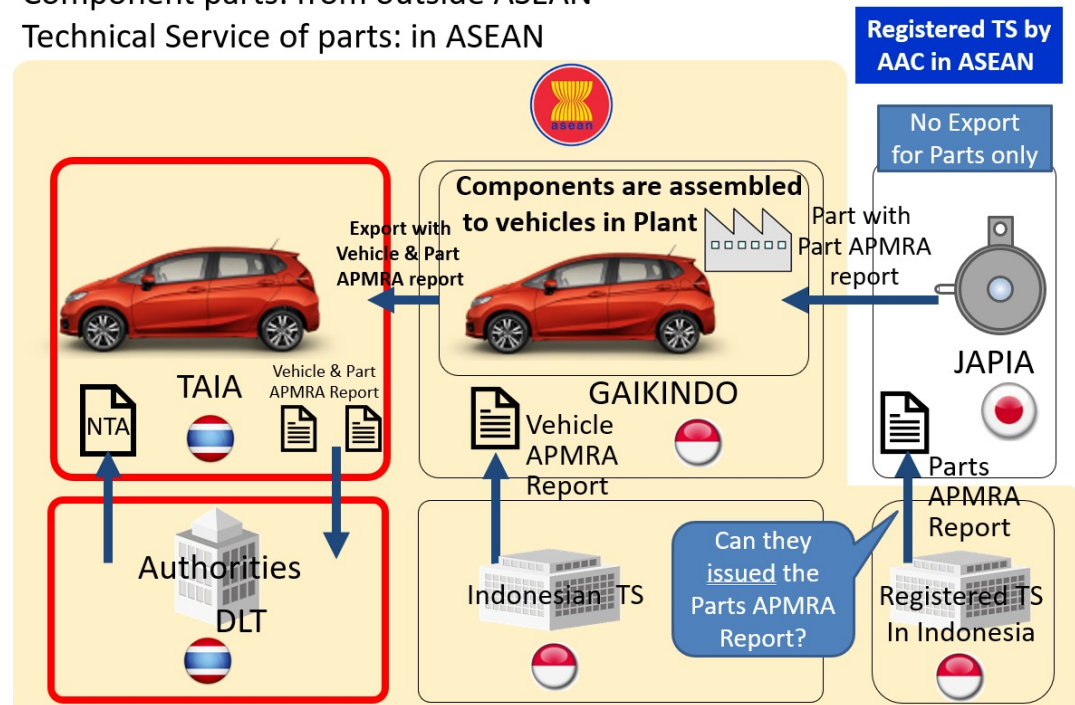
- (1) Parts APMRA Report can not be issued following to ASEAN MRA Article 2 paragraph 2(b).
- (2) However, component part is with Part Test Report/Certificate complied with current national regulation (if any)
- (3) Parts Test Report/Certificates complied with current national regulation (if any) can be accompanied with system APMRA Report and shall be accepted for granting National Type Approval (NTA) of vehicle system.

ASEAN MRA Article 2 Paragraph 2

- (b) ASEAN Automotive Products means automotive products manufactured by a manufacture incorporated and operating within the territories of ASEAN that carries out manufacturing activities and responsible for the safety, quality and environment protection of the product concerned;

Vehicles: Produced in ASEAN
 Component parts: from outside ASEAN
 Technical Service of parts: in ASEAN

Sample-4



Supplementary Provision III : Case Study for APMRA Implementation

3.7 Case studies about difference of country of origin and Technical Service (UN-R28 as an Example) 5/6

Figure 14 illustrated Automotive products which:

- ◆ Component parts is produced outside ASEAN,
- ◆ Vehicle is produced inside ASEAN,
- ◆ Technical Service of vehicle system is located inside ASEAN designated by DB/RA under AAC according to ASEAN MRA.
- ◆ However, Technical Service of Parts is located outside ASEAN designated by DB/RA under AAC.

- (1) Parts APMRA Report can not be issued following to ASEAN MRA Article 2 paragraph 2(b).
- (2) However, component part is with Part Test Report/Certificate complied with current national regulation (if any)
- (3) Parts Test Report/Certificates complied with current national regulation (if any) can be accompanied with system APMRA Report and shall be accepted for granting National Type Approval (NTA) of vehicle system.

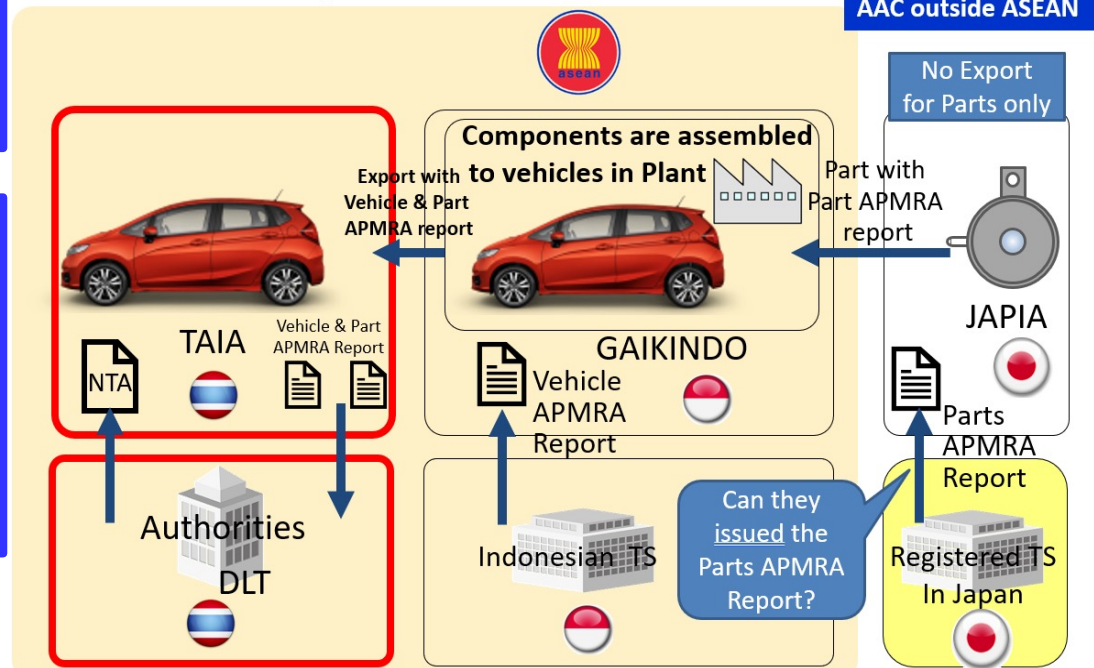
ASEAN MRA Article 2 Paragraph 2

(b) ASEAN Automotive Products means automotive products manufactured by a manufacture incorporated and operating within the territories of ASEAN that carries out manufacturing activities and responsible for the safety, quality and environment protection of the product concerned;

Vehicles: Produced in ASEAN
 Component parts: from outside ASEAN
 Technical Service of parts: outside ASEAN

Sample-5

Registered TS by AAC outside ASEAN



Supplementary Provision III : Case Study for APMRA Implementation

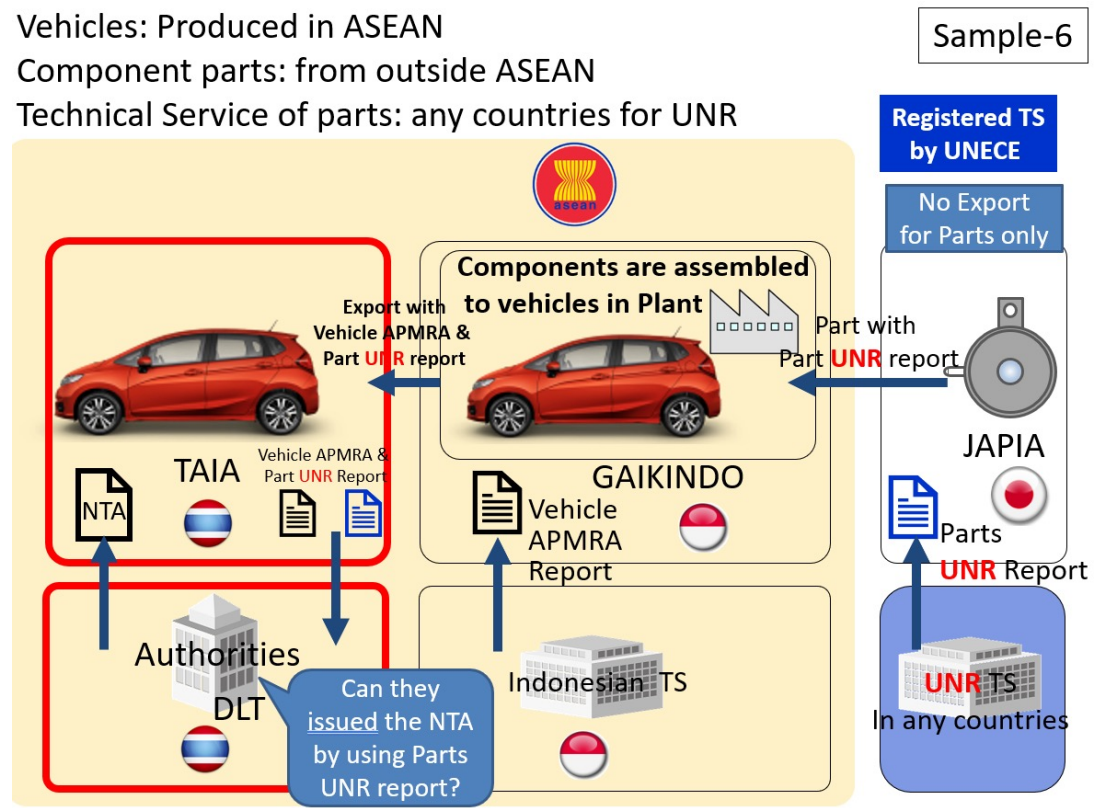
3.7 Case studies about difference of country of origin and Technical Service (UN-R28 as an Example) 6/6

Figure 15 illustrated Automotive products which:

- ◆ Component parts is produced outside ASEAN,
- ◆ Vehicle is produced inside ASEAN,
- ◆ Technical Service of vehicle system is located inside ASEAN designated by DB/RA under AAC according to ASEAN MRA.
- ◆ However, Technical Service of Parts is registered by UNECE (under 1958 Agreement) located in any countries.

- (1) Parts APMRA Report can not be issued following to ASEAN MRA Article 2 paragraph 2(b).
- (2) However, component parts is with Part UNR Certificate issued by Technical Service registered by UNECE (under 1958 Agreement).
- (3) Parts UNR Certificate can be accompanied with system APMRA Report and shall be accepted for granting National Type Approval (NTA) of vehicle system.

ASEAN MRA Article 2 Paragraph 2
 (b) ASEAN Automotive Products means automotive products manufactured by a manufacture incorporated and operating within the territories of ASEAN that carries out manufacturing activities and responsible for the safety, quality and environment protection of the product concerned;



Supplement: Structure of Application document (Case study Sample 1 is as an example)

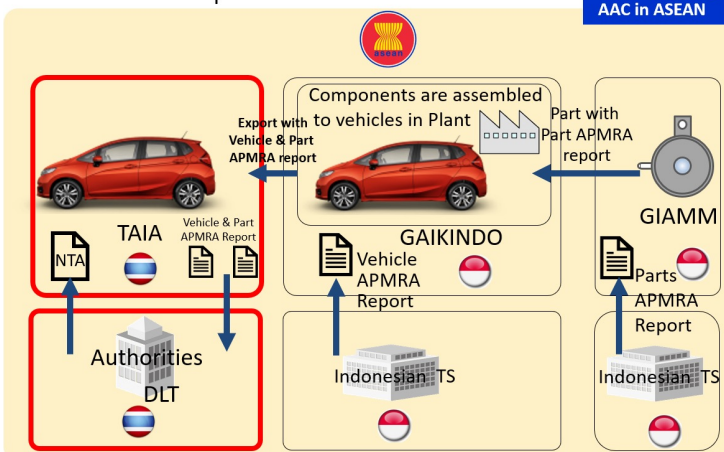
Application Document: Information of Vehicle APMRA report

- ◆ Necessary information of Vehicle for making Vehicle APMRA report shall be provided by manufacturer to TS.
- ◆ TS may use the vehicle information provided by manufacturer as is, as the part of Vehicle APMRA report.
- ◆ Parts APMRA report shall be included in the information of vehicle.=>

Vehicles: Produced in ASEAN
 Component parts: from ASEAN
 Technical Service of parts: in ASEAN

Sample-1 of Case study

Registered TS by AAC in ASEAN



UN REGULATION No.28(00) - AUDIBLE WARNING DEVICES

APPLICATION FOR Original

DATE : August 2021

DOC.NO. : AB1-28-1

No.	ITEMS	SPECIFICATION
0.	GENERAL	
0.1.	Make (trade name of manufacturer)	: XXX
0.2.	Type	: AB1
0.2.1.	Commercial name(s) (if available)	: HRV
0.3.	Means of identification of type, if marked on the vehicle	: N.A.
0.3.1.	Location of that marking	: N.A.
0.4.	Category of vehicle	: M1
0.5.	Company name and address of manufacturer	: Honda Motor Co., Ltd. No.1-1, 2 Chome, Minami-aoyama, Minato-ku, Tokyo Japan
0.5.1.	Name and address of the authorized representative	: Manufacture A Country A
0.8.	Name(s) and address(es) of assembly plant(s)	: Manufacture A Country A
12.1.	Audible warning device(s)	
12.1.1.	Location, method of affixing, placement and orientation of the device(s), with dimensions	: location : behind the front bumper affixing : tightened by the bolts placement : on front bulkhead see drawing : Installation of horn
12.1.2.	Number of device(s)	
12.1.3.	Type approval certification or equivalent test report number(s)	: AWD1-28-1
12.1.5.	Rated voltage or pressure	: 12V
12.1.6.	Drawing of the mounting device	: see drawing installation of horn

In this sample, there is only one vehicle type and no worst case selection of vehicles is assumed to be necessary.

Supplement: Structure of Application document (Case study Sample 1 is as an example)

Application Document: Information of Vehicle APMRA report

- ◆ Necessary information of Vehicle for making Vehicle APMRA report shall be provided by manufacturer to TS.
- ◆ TS may use the vehicle information provided by manufacturer as is, as the part of Vehicle APMRA report.

DOC.NO. : AB1-28-1

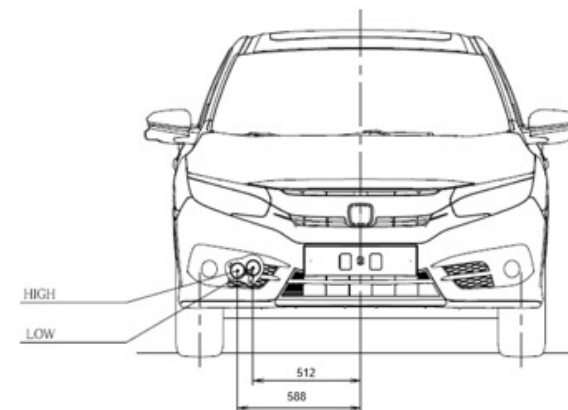
CONTENTS

1. DRAWINGS

NO.

Installation of horn

28-TEX-001-GA

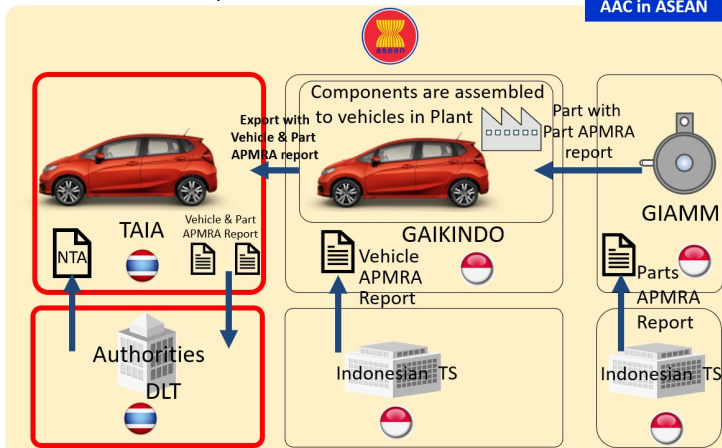


TITLE	INSTALLATION OF HORN	DRAWING NO.	28-TEX-001-GA
-------	----------------------	-------------	---------------

Vehicles: Produced in ASEAN
 Component parts: from ASEAN
 Technical Service of parts: in ASEAN

Sample-1 of Case study

Registered TS by AAC in ASEAN



In this sample, there is only one vehicle type and no worst case selection of vehicles is assumed to be necessary.

Supplement: Structure of Application document (Case study Sample 1 is as an example)

Application Document: Information of the Conformity Assessment (testing) for Vehicle

- ◆ TS shall be responsible for the Conformity assessment (Testing) .
- ◆ Necessary information for the Conformity assessment (Testing) shall be provided by manufacturer to TS.
- ◆ TS may use the information for the Conformity assessment (Testing) provided by manufacturer as is, as the APMRA report.

UN REGULATION No.28(00) - AUDIBLE WARNING DEVICES

Test Vehicle Specification

Vehicle Identification Number	: MRZAB1320MP8000002
Body Style/Variant	: 4 door saloon
Horn Make	: HR Maker
Horn Model Number	: ABCH-201 (high), ABCL-202 (low)
Horn Type	: Resonator disc
Voltage Rating	: 12 V
Number of Devices Fitted	: 2
Type approval certification or equivalent test number(s) of Device(s)	: II E43-000123(JPN)

Facility and Equipment Checks

Equipment	Serial / Certificate No.	Calibration date
Sound level meter	00211575	27/11/2020
Microphone	02236	27/11/2020
Calibrator	50541159	21/1/2020
Voltmeter	M734L879	25/5/2020

Test Requirements

Supply voltage at time of test	: 13 V
Ambient noise level	: 49.5 dB(A)
Brief description of weather conditions	: Dry, sunny

Test Result

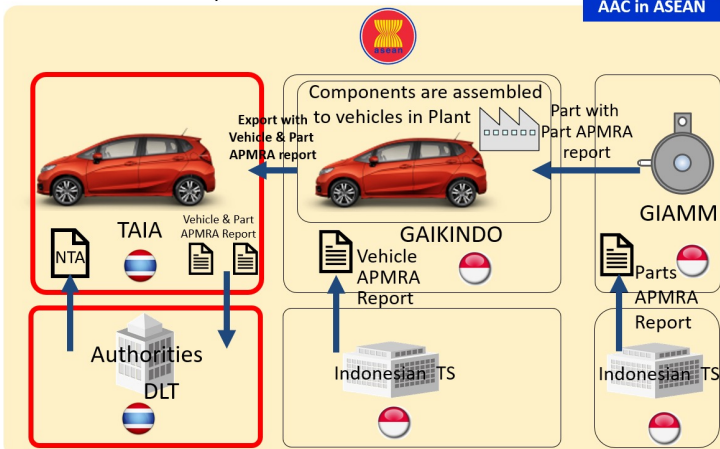
Height of microphone above ground (m)	Maximum sound pressure level [dB(A)]
1.11	101.8

Height range: 0.5 - 1.5 m

Vehicles: Produced in ASEAN
Component parts: from ASEAN
Technical Service of parts: in ASEAN

Sample-1 of Case study

Registered TS by AAC in ASEAN



In this sample, there is only one vehicle type and no worst case selection of vehicles is assumed to be necessary.

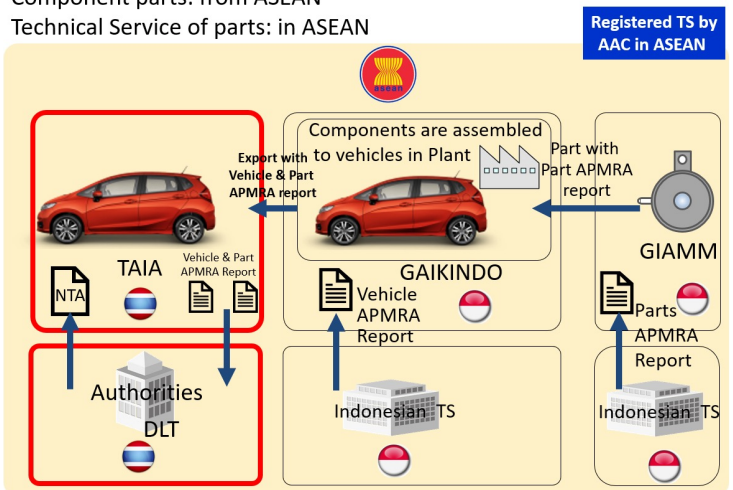
Supplement: Structure of Application document (Case study Sample 1 is as an example)

Application Document: Worst-case selection for parts

- ◆ Manufacturer may provide the proposal of Worst Case Selection (WCS) according to manufacturer's technical knowledge to TS
- ◆ TS may examine the proposals for Worst Case Selection (WCS) by manufacturers and shall decide on the final WCS.
- ◆ TS may use the information for WCS provided by manufacturer as is, as the part of Parts APMRA report.

Vehicles: Produced in ASEAN
 Component parts: from ASEAN
 Technical Service of parts: in ASEAN

Sample-1 of Case study



In this sample, there is only one vehicle type and no worst case selection of vehicles is assumed to be necessary.

UN REGULATION No.28 Audible warning devices Part I
 Worst case documents: The reason of worst case selection.

No.	1	2	3	4	5
Type	AA-01				
Trade name or mark	Company A				
Principles of operation	Electro-magnetic with resonator disc, indicating whether it is a single-tone warning device.				
Type of electrical supply	Direct				
Shape and dimensions of diaphragm(s)	φ 72				
Rated voltage	12V				
Outer shape of a case, Shape or kind of sound outlet(s)					
Rated sound frequency or frequencies	480Hz				
Vehicle category	Class II				
Bracket shape	50mm, t0.6X2	50mm, t0.8X2	65mm, t0.6X2	65mm, t0.8X2	Special
Typical vent structure	Standard		Semi Waterproof		Waterproof
Typical terminal configuration	Standard		Semi Waterproof		Waterproof
Test type	X				
Country of manufacture / manufacturing plant	A,B,C,D	A,B	B	C	C,D

Supplement: Structure of Application document (Case study Sample 1 is as an example)

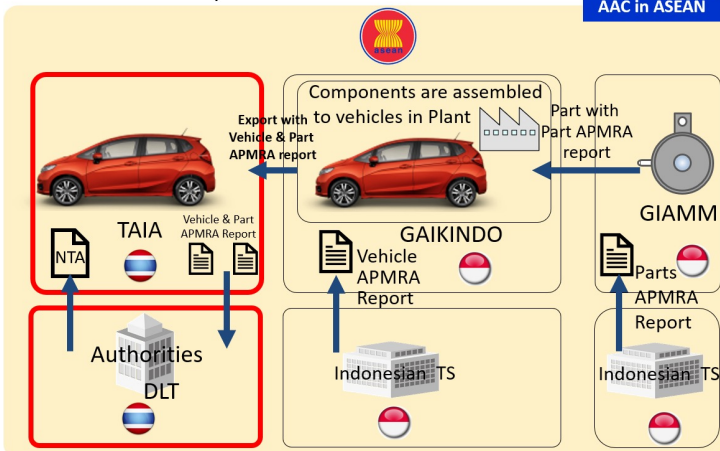
Application Document: Information of Part

- ◆ Necessary information of Part for making Parts APMRA report shall be provided by parts manufacturer to TS.
- ◆ TS may use the parts information provided by parts manufacturer as is, as the part of Parts APMRA report .
- ◆ Parts APMRA report shall be identified and be included in the information of vehicle.

Vehicles: Produced in ASEAN
 Component parts: from ASEAN
 Technical Service of parts: in ASEAN

Sample-1 of Case study

Registered TS by AAC in ASEAN



UN REGULATION No.28(00) - AUDIBLE WARNING DEVICES

APPLICATION FOR Original

DATE : August 2021

DOC.NO. : AWD1-28-1

No.	ITEMS	SPECIFICATION
0.	GENERAL	
0.1.	Make (trade name of manufacturer)	: HR Maker
0.2.	Type	: Electro-magnetic with resonator disc; Audible warning device
0.2.1.	Commercial name(s) (if available)	: XYZ
0.3.	Category of vehicle	: M, N and L3 to L5 of a power greater than 7 kW (class II);
0.4.	Company name and address of manufacturer	: PT. HAMADEN INDONESIA MANUFACTURING BEKASI PLANT Jl. Kalimantan E 1-2, Kawasan Industri MM2100 Desa Gandamekar Kec. Cikarang Barat Kab. Bekasi 17520 Jawa Barat-Indonesia
0.5.	0.5. Type of electrical supply (direct or alternating current)	: Direct current
0.6.	Rated voltage(s) (V)	: 12 and 24
0.7.	Rated sound frequency or frequencies (Hz)	: 350±30 420±30
0.8.	Approved date	: May 28, 2020
1.3.1	Identification number(s)	: ND-012
13.	Type approval certification or equivalent test report number(s)	: N/A

In this sample, there is only one vehicle type and no worst case selection of vehicles is assumed to be necessary.

Supplement: Structure of Application document (Case study Sample 1 is as an example)

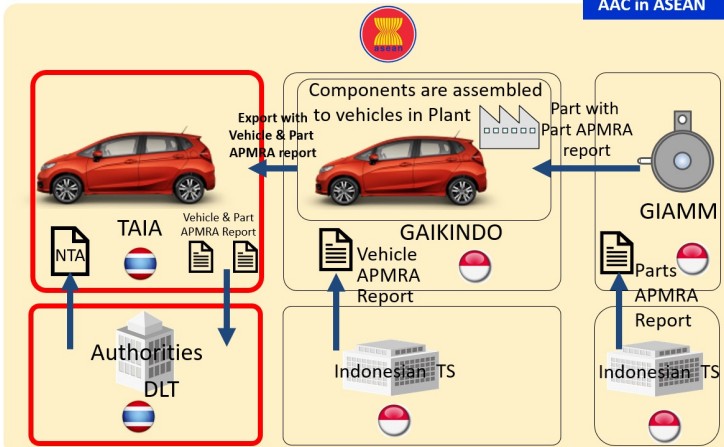
Application Document: Information of Part

- ◆ Necessary information of Part for making Parts APMRA report shall be provided by parts manufacturer to TS.
- ◆ TS may use the parts information provided by parts manufacturer as is, as the part of Parts APMRA report .

Vehicles: Produced in ASEAN
 Component parts: from ASEAN
 Technical Service of parts: in ASEAN

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In this sample, there is only one vehicle type and no worst case selection of vehicles is assumed to be necessary.

CONTENTS

DRAWINGS

NO.

28-TEX-001-GA

DWG. No. FND-012J

Installation of horn

(#1) POSITION OF BRACKETS/TERMINALS

(#2) BRACKET

(#3) BODY

(#4) TERMINAL

(#5) INTERNAL CIRCUIT

(#6) TYPES OF CORE AND COIL

(#7) FIXATION METHODS OF MOVING CORE

RESONANCE DISC

VIBRATING DISC

MAKER NAME (INCLUDING TRADE MARK)

DEVICE NO. (ND-012)

APPROVAL MARK & APPROVAL NO.

A - A

CURRENT ADJUSTING SCREW (THIS PART MAY BE NOT PRESENT)

RIVET (THIS PART MAY BE NOT PRESENT)

VENT

NUT

NOTE 1) The parts indicated by '*' have variations in the range in which the performance is not affected, as shown in attached drawings.
 2) Detail shape is subject to change in the range in which the performance is not affected.

No	NAME	MATERIAL
1	RESONANCE DISC	Steel
2	VIBRATING DISC	Steel
3	BODY	Steel
4	BRACKET	Steel

PART NAME	HORN ASSY
DEVICE No.	ND-012
MAKER	HAMANAKODENSO CO.,LTD.

Supplement: Structure of Application document (Case study Sample 1 is as an example)

UN REGULATION No.28(00) - AUDIBLE WARNING DEVICES

Application Document: Information of the Conformity Assessment (testing) for parts

- TS shall be responsible for the Conformity assessment (Testing) .
- Necessary information for the Conformity assessment (Testing) shall be provided by manufacturer to TS.
- TS may use the information for the Conformity assessment (Testing) provided by manufacturer as is, as the APMRA report.

Test Parts Specification

Horn Type	: Resonator disc
Horn Make	: HR Maker
Horn Model Number	: ND-012
Voltage Rating	: 12 V, 24V
Nominal frequency	: 350±30Hz, 420±30Hz
Type approval certification or equivalent test report number(s) of	: II E13-000026(LUX)

Facility and Equipment Checks

Equipment	Serial / Certificate No.	Calibration date
Sound level meter	00211500	27/12/2020
Microphone	03461	1/11/2020
Calibrator	50541201	21/1/2021
Voltmeter	C734X991	25/3/2021

Test Requirements

Supply voltage at time of test	: 13 V
Ambient noise level	: Anechoic chamber

Test Result (n=2)

Sound pressure level in 2 m distance in [dB(A)]	112.3
	112.8
Time lapse between activation and reaching of minimum sound pressure level required (s)	0.09
	0.09

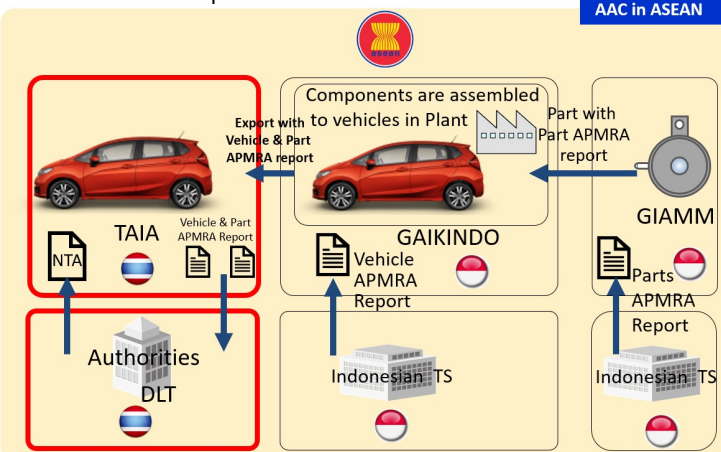
Sound spectrum		
Before carrying out of the endurance tests, the sound spectrum of the devices was measured [dB(A)]		
Frequency[Hz]	≥ 1800 to 3550	>3550
Volt [V]		
13.0	111.9/112.7	101.5/98.7
11.4	109.2 /109.8	102.0/97.8
13.8	112.1/112.8	101.2/98.4

Sound spectrum		
After passing the endurance tests, the sound spectrum of the devices was measured again [dB(A)]		
Frequency[Hz]	≥ 1800 to 3550	>3550
Volt [V]		
13.0	107.6/110.5	96.3/99.6
11.4	108.7/108.4	99.2/99.2
13.8	110.8/111.1	99.3/99.6

Vehicles: Produced in ASEAN
Component parts: from ASEAN
Technical Service of parts: in ASEAN

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ACTION PLAN

SUMMARY OF APMRA OBJECTIVE

The objectives of this ASEAN Mutual Recognition Arrangement on Type Approval for Automotive Products (hereinafter referred to as the “Arrangement”) are:

- (a) to enhance cooperation amongst Member States in ensuring the safety, quality and environmental protection of ASEAN automotive products;
- (b) to create a single market and reduce technical barriers to trade in the automotive sector through the harmonisation of technical requirement regarding safety, quality and environmental protection of ASEAN automotive products;
- (c) to facilitate the negotiation for mutual arrangement between ASEAN and other countries for recognition of conformity assessment results; and
- (d) to increase the utilisation and strengthen the capability of testing facility amongst Member States.

ACTION PLAN

It is very challenging to understand the actual ASEAN MRA implementation without having the actual use cases.

Therefore, Malaysia Government via MARii would like to welcome **Malaysia-Indonesia Cooperation** to execute the actual ASEAN MRA implementation for actual trade facilitation to boost the free flow of Automotive Products.

Malaysia also would like to welcome vendors development programs, Automotive R&D Activities and any type of cooperation with Indonesia Government/Gaikindo/Industry.

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TERIMA KASIH

