

The Fantastic Four Stakeholders in ASEAN NCAP

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Abstract – This paper will discuss the responsibilities and contributions of key stakeholders for ASEAN NCAP as well as their aspirations for the future ASEAN NCAP roadmap. The key stakeholders are: (1) government-related entities (2) automotive industry players (3) academia and (4) consumers. A Steering Committee (SC) has been set up to govern the ASEAN NCAP with the support from the Technical Committee (TC). Four Working Groups (WG) for each pillar of Frontal Impact (FIWG), Side Impact (SIWG), Child Restraint (CRWG), and Safety Assist (SAWG) have been established recently. Automotive industry players are also known to take the initiative to adopt the ASEAN NCAP safety rating as part of the guide for their research and developments. Car dealers have embedded ASEAN NCAP as one of their marketing strategies. The academicians and researchers also have been actively involved through the ASEAN NCAP Collaborative Holistic Research (ANCHOR) Projects since it was started in 2017 until now. Since ASEAN NCAP's inception 10 years ago, consumers' awareness and appreciation for ASEAN NCAP and the need for safer vehicles have also greatly improved.

Keywords: ASEAN NCAP, stakeholders, government entities, automotive industry, academia, consumers

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1.0 INTRODUCTION

The New Car Assessment Programme (NCAP) is a program that, in essence, evaluates the safety aspect of a car. The end product of the program is a safety rating given to new cars in the form of a five-star rating system; zero being the lowest and five being the highest. The primary aim of the rating is to provide consumers with reliable, legitimate, and independent information on the level of safety features that a car possesses in a user-friendly format and to make that information highly accessible to the public (NHTSA, 2007). This contributes to the secondary goal of the rating system; now that consumers are aware of how well a car that they are about to buy performs against various safety risks and can compare that with other cars, it ultimately encourages car manufacturers to design and produce safer cars as they vie for bigger shares in the automotive market (Euro NCAP, 2011). Table 1 listed the NCAP programs established in different countries and regions (ASEAN NCAP, 2012; Jawi et al., 2013; Green NCAP, 2018; ResearchAndMarkets.com, 2020).

Table 1: Regional NCAPs throughout the world

Name	Abbreviation	Founded	Location
United States New Car Assessment Program	U.S. NCAP	1978	Washington, USA
Insurance Institute for Highway Safety	IIHS	1959	Arlington, USA
Australasian New Car Assessment Program	ANCAP	1993	Canberra, Australia
Japan New Car Assessment Programme	JNCAP	1995	Tokyo, Japan
European New Car Assessment Programme	Euro NCAP	1997	Brussels, Belgium
Korean New Car Assessment Programme	KNCAP	1999	Seoul, South Korea
China-New Car Assessment Programme	C-NCAP	2006	Tianjin, China
Latin American & Caribbean New Car Assessment Programme	Latin NCAP	2010	Montevideo, Uruguay
New Car Assessment Programme for Southeast Asian Countries	ASEAN NCAP	2011	Selangor, Malaysia
Global New Car Assessment Programme	Global NCAP	2011	London, U.K.
Bharat New Vehicle Safety Assessment Program	BNVSAP	2017	-
Green New Car Assessment Programme	Green NCAP	2019	Brussels, Belgium

1.1 Creation of ASEAN NCAP

In March 2010, the United Nations (UN) General Assembly officially announced the ‘Decade of Action for Road Safety 2011-2020’, whose main objective is to stabilize and eventually decrease the forecasted level of global road accident death by 2020 (WHO, 2011). In its Global Plan, Member States are urged to organize or facilitate activities based on five pillars, namely (a) road safety management, (b) safer roads and mobility, (c) safer vehicles, (d) safer road users, and (e) post-crash response. Under the safer vehicles pillar, seven core activities are listed, one of which is as follows:

“Encourage implementation of new car assessment programmes in all regions of the world in order to increase the availability of consumer information about the safety performance of motor vehicles” (WHO).

Answering the call, during the FIA (Fédération Internationale de l’Automobile) Foundation Annual General Assembly in New Delhi on 7th of December 2011, a Memorandum of Understanding (MoU) was signed between the Malaysian Institute of Road Safety Research (MIROS) and Global NCAP to form the New Car Assessment Programme for Southeast Asian Countries (ASEAN NCAP) (Abu Kassim, 2018). The MoU proclaimed Global NCAP’s endorsement and support for MIROS to be the designated organization to run the program for the ASEAN region.

A Steering Committee (SC) has been set up to govern the ASEAN NCAP with the support from the Technical Committee (TC). Four Working Groups (WG) for each pillar of Frontal Impact (FIWG), Side Impact (SIWG), Child Restraint (CRWG), and Safety Assist (SAWG) have been established recently (ASEAN NCAP, 2019).

Since its inception, ASEAN NCAP has tested and rated more than 90 new vehicles of various classes, ranging from small hatchbacks, sedans, SUVs (Sport Utility Vehicle), MPVs (Multi-Purpose Vehicle), pickups, all the way to small lorries. The vehicles are made by more than 25 brands/manufacturers from all over the world and are either imported CBUs (Complete Built-up) or locally assembled CKDs (Complete Knocked-Down) (Abu Kassim et al., 2019). Local manufacturers also participate, namely Proton, Perodua (Malaysia), and VinFast (Vietnam).

This paper will discuss four main stakeholders of ASEAN NCAP which are:

- i. Government-related entities
- ii. Automotive industry players
- iii. Academia
- iv. Consumers

2.0 GOVERNMENT-RELATED ENTITIES

For discussion in this paper, five government-related entities that are directly involved with ASEAN NCAP are chosen: MIROS, MOT, JPJ, KPDNHEP, and MARII. As mentioned before, MIROS is the agency that has been given the trust to run the ASEAN NCAP program for the ASEAN region. MIROS’s role in leading and implementing the vehicle safety campaign through ASEAN NCAP through collaborations with many other agencies is the most crucial to ensure its success.

Decreasing the number of road crash casualties up to 50% by 2020 and beyond is the main objective highlighted in the National Road Safety Plan (NRSP) 2014-2020 (Figure 1) prepared by the Road Safety Department under the Ministry of Transport (MOT) and also MIROS (Road Safety Department, 2014). The NRSP is in line with the UN Global Plan for Decade of Action for Road Safety 2011-2020. ASEAN NCAP establishment is being recognized by MOT under the vehicle safety performance evaluation program.

The Malaysian government has taken one step further in improving the rating's accessibility to the local public by making it mandatory for printed safety rating labels (as shown in Figure 2) to be affixed to any cars being displayed at all showrooms, sales centers, exhibitions, etc. starting from 1st of March 2020. Ministry of Domestic Trade and Consumer Affairs (KPDNHEP) has introduced the ASEAN NCAP Labelling Compliance Guideline (ASEAN NCAP, 2018). The move, lobbied by ASEAN NCAP, is also done to eliminate confusion among consumers caused by the misuse of safety ratings from other regions' NCAPs, as the specifications of the same model might not be similar in different regions (Lim, 2020). The label contains information on the safety fitment equipped in the displayed vehicles. With this, consumers can make informed choices in terms of safety.



Figure 1: Road Safety Plan of Malaysia 2014-2020 (Road Safety Department, 2014)



Figure 2: Example of the mandatory safety rating label for Malaysian cars (Lim, 2020)

Another big milestone of vehicle safety is that 'R44 Child Restraint Systems (aftermarket)' is a criterion from UN Regulations included in Akta JPJ 1987 starting 1st January 2015 in JPJ 'Garis Panduan Kelulusan Jenis Kenderaan (Pindaan) 2017' as stated in Figure 3 below (Bahagian Kejuruteraan Automotif, 2017). However, it is still in waiting for approval from the government for enforcement to take place. MIROS has done extensive research on

this matter as reported in ‘Vehicle Crash Pulse Study for Child Restraint System (CRS) Evaluation’ report (Ahmad et al., 2018). A UTM’s spin-off company, ACTS Smart Solution also has been awarded in the ANCHOR program by ASEAN NCAP to pursue further research works on CRS (Hamzah, 2018).

ADDITIONAL 24 UN REGULATIONS IMPLEMENTATION FROM 01 JANUARY 2015

NO	UN	DESCRIPTION	SERIES	VEHICLE CATEGORIES																
				L1	L2	L3	L4	L5	L6	L7	M1	M2	M3	N1	N2	N3	O1	O2	O3	O4
1	R4	Rear Registration Plate Lamp	00									✓	✓	✓	✓	✓	✓	✓	✓	✓
2	R10	Radio Interference Suppression	04	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	R11	Door Latches and Hinges	03									✓			✓					
4	R19	Front Fog Lamps (If fitted)	04				✓	✓	✓		✓	✓	✓	✓	✓	✓				
5	R21	Interior Fittings	01									✓								
6	R23	Reversing Lamps	00									✓	✓	✓	✓	✓	✓	✓	✓	✓
7	R26	External Projection	03									✓								
8	R34	Prevention of Fire Risks	02									✓	✓	✓	✓	✓	✓	✓	✓	✓
9	R37	Filament Lamps	03	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
10	R38	Rear Fog Lamps	00				✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
11	R44	Child Restraint Systems (after market)	04																	

Figure 3: CRS in UN regulations implementation list (Bahagian Kejuruteraan Automotif, 2017)

MARii launched SAFECAR as an initiative to promote the NAP 2014 strategic thrust of Safety, Security, and Environment to the public through the Safe Car campaign as in Figure 4 (MARii, n.d.). This covers vehicle safety features and components, safe driving behavior, vehicle roadworthiness, and the ASEAN NCAP. MIROS and MARII have signed a memorandum of understanding together to increase the vehicle safety standards. One of the targeted projects is MyMAP, a motorcycle safety star rating (Ramanujam, 2021). With all efforts from various government-related agencies, the standard of vehicle safety in Malaysia specifically and also ASEAN, in general, can be improved to be better and able to reduce the accidents statistics.



Figure 4: MARii campaign logo on vehicle safety (MARii, n.d.)

3.0 AUTOMOTIVE INDUSTRY PLAYERS

The automotive industry players are also involved directly in ASEAN NCAP to give their inputs and supports towards better vehicle safety. As mentioned in the Introduction part, some of them are involved as Steering Committee and also Technical Committee members. The Technical Committee is assisting in the crash test technicalities.

The Steering Committee consists of representatives from MIROS, Automobile Association of; Malaysia (AAM), Singapore (AAS), Cambodia (AAC), the Philippines (AAP), and Thailand (RAAT). It is supported by a Technical Committee involving representatives from MIROS, University of the Philippines's National Centre for Transportation Studies, Institut Teknologi Bandung, Sirindhorn International Thai-German Graduate School of Engineering, JNCAP, Euro NCAP, and ANCAP (Abu Kassim et al., 2018).

Car manufacturers are obviously one of the most important stakeholders as the cars tested are manufactured by them. Based on the protocol (ASEAN NCAP, 2013), the selection of cars is either decided by the Steering Committee based on the budget and lab capacity and through sponsorship. Some car manufacturers use this as one of their marketing strategies to show the car safety level right after the public launch.

Through the ASEAN NCAP crash test results and feedback from customers, manufacturers have been able to increase their car's safety levels. Even Perodua Axia and Proton Iriz which are two of the cheapest cars in the Malaysian market managed to receive 4-Star and 5-Star respectively from ASEAN NCAP (Abu Kassim et al., 2019). Another example of the manufacturer's increased commitment towards safer cars on the road in response to the safety rating can also be seen from Perodua Myvi which only received 3-Star in 2013 but is rated 5-Star for its current model.

In addition, manufacturers and car dealers have taken the initiative to make the ASEAN NCAP safety rating of their cars available not only on their regional websites but also in other marketing mediums such as roadside billboards and newspaper advertisements. In fact, in some cases, the safety rating is part of or the major focal point of their marketing strategy.

In one of the ANCHOR's research outputs, a study was conducted to investigate the relationship between technology capability and car manufacturer understanding and awareness of ASEAN NCAP (Abashah et al., 2020). Findings from the surveys and interviews among car manufacturers found out that in order to produce a safer car design, it is significant to match the manufacturers' technology capability and ASEAN NCAP requirements.

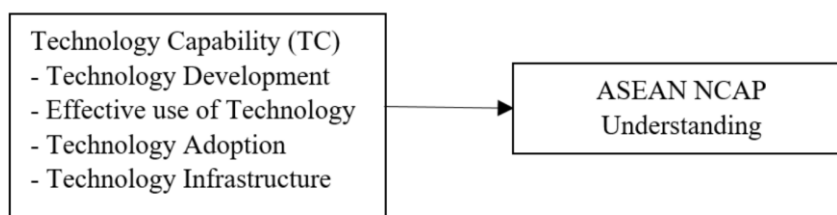


Figure 5: ANCHOR project research framework (Abashah, et al., 2020)

4.0 ACADEMIA

Discussions in this paper will focus on the collaboration between ASEAN NCAP and academia through ASEAN NCAP Collaborative Holistic Research (ANCHOR) programs (Figure 6). ASEAN NCAP has started the ANCHOR projects as one of the efforts to boost the research and development works in the vehicle safety field. The first ANCHOR I started in 2017-2018, follow by ANCHOR II in 2018-2019, and currently in the progress right now is ANCHOR III in 2020-2021.



Figure 6: ASEAN NCAP collaboration with academia (SAE Malaysia, 2018)

Through ANCHOR I programmes, 14 projects have been awarded to the universities: Universiti Teknologi Malaysia (UTM), Universiti Teknikal Malaysia (UTeM), Universiti Malaysia Pahang (UMP), King Mongkut University, Universiti Malaysia Perlis (UniMAP), Universiti Kebangsaan Malaysia (UKM), Universiti Tun Hussein Onn Malaysia (UTHM), Institut Teknologi Bandung (ITB). Three ASEAN countries that participated in the ANCHOR collaboration are Thailand, Malaysia, and Indonesia. Some of the topics are related to Blind Spot Detection, Automatic Emergency Braking (AEB), Adult and Child Occupants, and Motorcycle Safety (Abu Kassim et al., 2018).

ANCHOR II and III projects have expanded the collaborations with other universities such as the National Defence University of Malaysia (UPNM), Universiti Teknologi Petronas (UTP), International University of Malaysia (IIUM), Ho Chi Minh City University of Technology (HCMUT), Vietnam National University, Haluoleo University, Indonesia. Some outcomes from these projects were assessment methodologies proposed to be included in ASEAN NCAP rating protocols such as for child presence detection (Abu Husain et al., 2020), and rearward visibility (Rahman et al., 2020).

ANCHOR III which are currently in the progress covering topics based on different clusters: (1) **Passive Safety** – crash test methodology and injury studies of the full-frontal test, AOP, CRS, side-impact crash, pedestrian crash; (2) **Active Safety** – assessment methodology and relevancy of Autonomous Emergency Steering (AES), Autonomous Emergency Braking (AEB), Lane Departure Alert (LDA), Lane Keep Assist (LKA), Road Sign Assist (RSA); and (3) **Road Safety** (general) – road crash studies, human factors, ergonomics.

The collaborations between academia and ASEAN NCAP have produced fruitful outcomes in terms of publications, conferences, assessment methodology, database, and many others which hopefully increase awareness of how vehicle safety is an important topic to be included in the syllabus and also research works among academicians. The involvement of universities together with ASEAN NCAP in bringing up the vehicle safety level is not just via the projects but producing the future engineers who will put vehicle safety as the top priority when they work in the automotive industry after graduation.

5.0 CONSUMERS

Over the years, ASEAN NCAP's presence has grown bigger and has become a household name among consumers. A survey among 428 Malaysian drivers with a response rate of 85.6% in 2019 shows that 36% of them were aware of the program which is approximately 50% more than a previous survey done in 2014 (Roslin et al., 2020). Consumers' awareness and appreciation for the need for safer vehicles have also generally improved.

Table 2 shows how consumer awareness has steadily increased from 15.5% in Nov 2013 to 38.5% in March 2016. This is impressive considering the increment happened within a duration of fewer than three years.

Table 2: Customer awareness on ASEAN NCAP existence (Abu Kassim et al., 2017)

Reference	Data Date	Sampling Method	Sampling Area	No. of Samples	Awareness (%)
(Md Isa et al., 2016)	Mac 2016	Purposive	Klang Valley	500	38.5
(Abu Kassim et al., 2016b)	July 2015 – Aug. 2015	Random	Klang Valley	103	32.0
(Mohd Jawi et al., 2014)	Aug. 2014	Random	Kajang & Bangi	180	18.0
(Md Isa et al., 2014)	Nov. 2013 – Jan 2014	Systematic	Klang Valley	660	15.5

Social media channels via Facebook, Twitter, YouTube are being used to convey the messages and updates related to vehicle safety progress and developments in Malaysia and ASEAN region. Table 3 shows the information as of January 2017. The latest data as of January 2021, Facebook has 3,110 likes, Twitter has 1,885 followers and YouTube is obviously preferred by the consumers with about 27,300 subscribers (Figure 7 and 8). Within the four years' duration, Facebook likes have increased 100 %, Twitter followers 239 %, and YouTube shows an incredible increment of 275 % subscribers. The larger subscriber numbers through YouTube might be contributed by the factor that it is using video, thus it can convey the message better especially the crash test videos done by ASEAN NCAP (Jawi et al., 2021).

Table 3: Statistics of ASEAN NCAP social media (Abu Kassim et al., 2017)

Social Media Platform	Info/Statistics
Twitter	
<i>Tweethandle</i>	@aseancap
<i>First tweet</i>	March 2013
<i>Followers (as of January 2017)</i>	556
Facebook	
Account 1 (ASEAN NCAP):	@AseanNcap
<i>Date joined</i>	June 2013
<i>Likes</i>	1,522
Account 2 (ASEAN NCAP Malaysia - MY):	@aseancapmy
<i>Date joined</i>	December 2014
<i>Likes (as of January 2017)</i>	1,279
YouTube	
<i>Channel name</i>	ASEAN NCAP
<i>Date joined</i>	March 2014
<i>Subscribers (as of January 2017)</i>	7,279
<i>Views (as of January 2017)</i>	2,147,943

From social media as well, ASEAN NCAP is able to get direct feedback from the consumers based on their comments. Although it might be general or based on emotions, it surely can give some inputs to ASEAN NCAP. Consumers' feedbacks are very important to gauge their awareness and understanding towards ASEAN NCAP initiatives in particular and vehicle safety technologies in general.

Among 15 contributing factors towards consumers' considerations when purchasing a new car, safety assist technology is third, after only fuel economy and comfort. To put in perspective, the purchase price is fourth on the list. Even though the price is still a major factor, its importance has arguably been lessened partly with the help of the 'Affordable Safety' initiative introduced by ASEAN NCAP (Roslin et al., 2020).

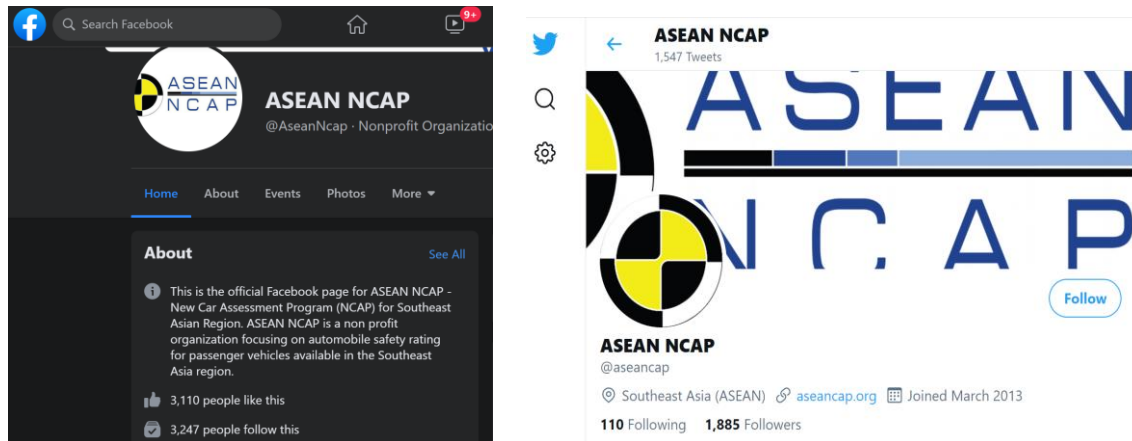


Figure 7: ASEAN NCAP Facebook & Twitter page

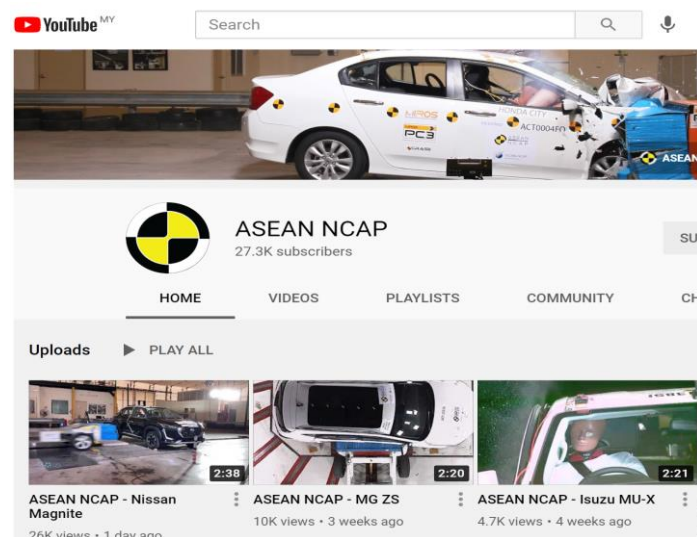


Figure 8: ASEAN NCAP YouTube channel

6.0 CONCLUSION

All in all, ASEAN NCAP as a whole has certainly been successful in its aim of raising the safety standard of the region's automotive domain. However, there is always room for improvement. Going forward, the achievement can be measure in the execution of the latest ASEAN NCAP 2021 – 2025 and also in planning the upcoming edition ASEAN NCAP roadmap of 2026 – 2030. More focus in addressing the much higher death rate among motorcyclists can be seen by the implementation of a new pillar for Motorcyclist Safety (MS) in the 2021 – 2025 roadmap.

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