

Informal document WP.29-165-13  
(165<sup>th</sup> WP.29, 10-13 March 2015,  
agenda item 6)



*Safer Cars for ASEAN Region*

# New Car Assessment Programme For Southeast Asia (ASEAN NCAP)

---

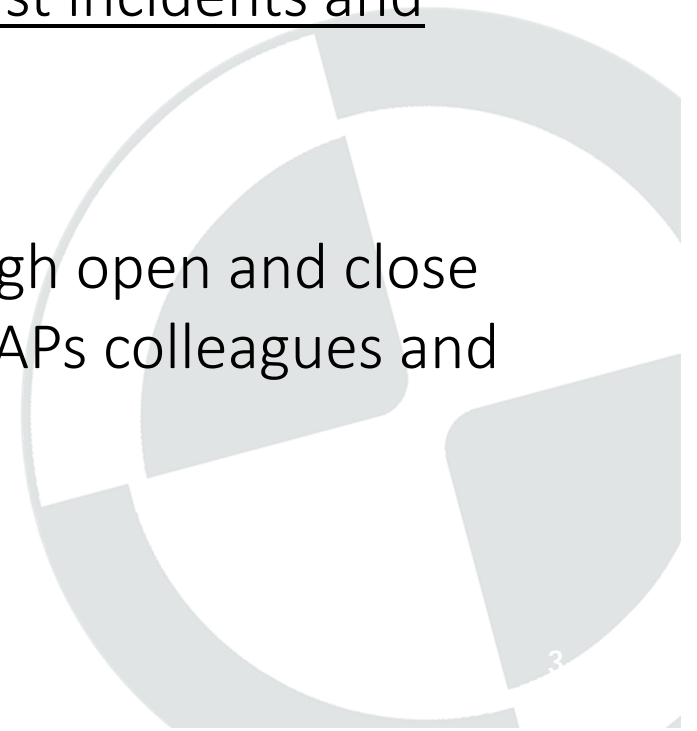
Professor Dr. Wong Shaw Voon  
Chairman, ASEAN NCAP

165<sup>th</sup> World Forum for Harmonization of Vehicle Regulations  
Geneva, 10 - 13 March 2015



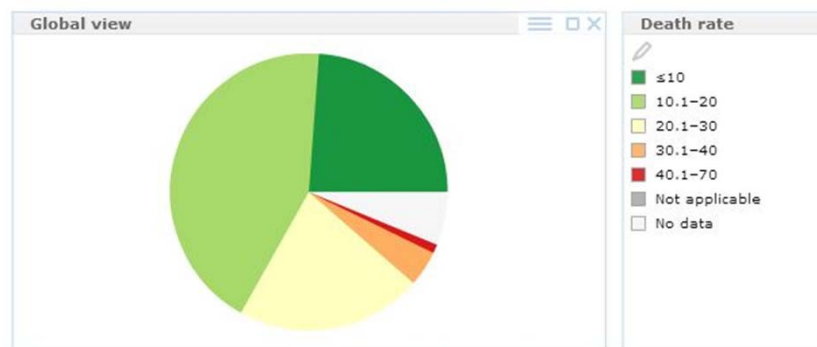
- New Car Assessment Program for Southeast Asia region (ASEAN NCAP) has been established since 8<sup>th</sup> December 2011 in New Delhi, India.
- Ever since, we have assessed 34 models from 18 car manufacturers all over the world.
- We have tested 17 from Top 20 Manufacturers of ASEAN countries.
- We covered minimum of 50% from the TIV of ASEAN Markets (according to 2012 statistics).
- ASEAN NCAP (4-star) widely accepted as reference 'standard' for countries without crash regulation.

- ASEAN NCAP understood that new technology has been developed rapidly in the area of driving assist. ASEAN NCAP encouraged manufacturer to develop and equip the latest vehicle with the system with priority to be given to a system which able to help to reduce motorcyclist incidents and fatalities.
- The roadmap has been produced through open and close consultation with car manufacturer, NCAPs colleagues and ASEAN NCAP Stakeholders.



- ASEAN NCAP which has been established under Safer Vehicle Pillar of UN Decade of Action needs to address and support to solve the issues.
- Fatality rate for Indonesia, Myanmar, Laos and Vietnam not as high as Malaysia and Thailand in 2010. This shows that higher exposure of vehicle in Malaysia and Thailand brought to undesirable results in terms of road fatality.
- The result also might be a reflection of accurate and practical data collection of the country institution.
- Thus, ASEAN NCAP has to intervene the process by introducing safer mobility to this countries.

# The Road Traffic Injury Problem



Country	Index
Singapore	5.1
Brunei	6.8
Philippines	9.1
Myanmar	15.0
Cambodia	17.2
Indonesia	17.7
Laos	20.4
Vietnam	24.7
Malaysia	25.0
Thailand	38.1

WHO , Estimated road safety death rate (per 100,000 population) 2010

- In order to achieve desirable result in future, priority need to be given based on road user.
- Distribution of road safety deaths by road user type as follows (2010);

Country	4 wheels	2/3 wheels	Cyclist	Pedestrian	Others
Indonesia	6.1	35.7	1.7	21.1	35.4
Laos	14.6	74.4	1.3	6.3	3.4
Malaysia	26	58.7	2.8	9.1	3.4
Myanmar	26.2	22.9	8.6	26.5	15.9
Singapore	8.8	46.1	8.3	28.5	8.3
Thailand	13.3	73.5	3.0	7.8	2.5
Cambodia	11.8	66.6	4	12.0	5.7

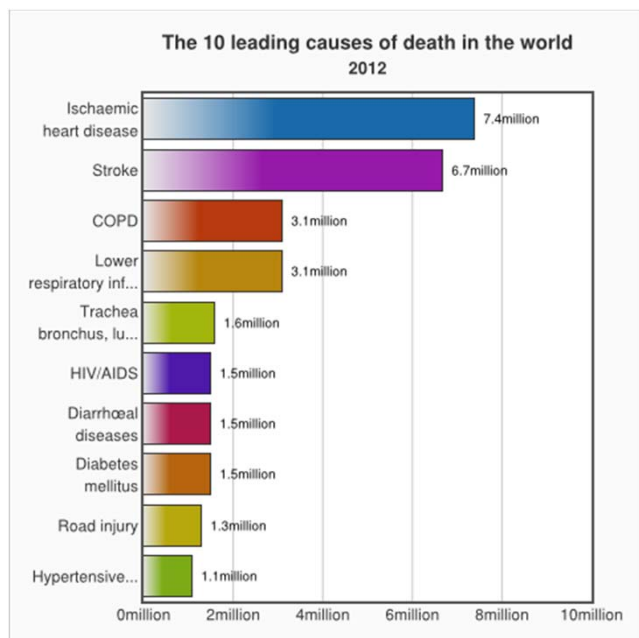
- The developing country will require a convenience mobility. Motorcycle will be efficient non safe mobility.
- Tata has introduced the “0 Star” Tata NANO in Myanmar.
- In Cambodia, dumping grounds for second hand car from developed countries?. ASEAN NCAP hopes that the imported second hand car will satisfy minimum safety level to reduce mishaps.
- It will be ASEAN NCAP responsibility to drive manufacturer to provide a safer car to be offered for the region.
- *Safety* alone will never be adequate, *safety* must be affordable. *Safety* is not for elite people only, *safety* must be for all.

# The Road Traffic Injury Problem

➤ Who should we prioritize



Table 1. Leading causes of death by age, world, 2004



RANK	0-4 YRS	5-14 YRS	15-29 YRS	30-44 YRS	45-69 YRS	70+ YRS	TOTAL
1	Perinatal causes	Lower respiratory infections	Road traffic injuries	HIV/AIDS	Ischaemic heart disease	Ischaemic heart disease	Ischaemic heart disease
2	Lower respiratory infections	Road traffic injuries	HIV/AIDS	Tuberculosis	Cerebrovascular disease	Cerebrovascular disease	Cerebrovascular disease
3	Diarrhoeal diseases	Malaria	Tuberculosis	Road traffic injuries	HIV/AIDS	Chronic obstructive pulmonary disease	Lower respiratory infections
4	Malaria	Drownings	Violence	Ischaemic heart disease	Tuberculosis	Lower respiratory infections	Perinatal causes
5	Measles	Meningitis	Self-inflicted injuries	Self-inflicted injuries	Chronic obstructive pulmonary disease	Trachea, bronchus, lung cancers	Chronic obstructive pulmonary disease
6	Congenital anomalies	Diarrhoeal diseases	Lower respiratory infections	Violence	Trachea, bronchus, lung cancers	Diabetes mellitus	Diarrhoeal diseases
7	HIV/AIDS	HIV/AIDS	Drownings	Lower respiratory infections	Cirrhosis of the liver	Hypertensive heart disease	HIV/AIDS
8	Whooping cough	Tuberculosis	Fires	Cerebrovascular disease	Road traffic injuries	Stomach cancer	Tuberculosis
9	Meningitis	Protein-energy malnutrition	War and conflict	Cirrhosis of the liver	Lower respiratory infections	Colon and rectum cancers	Trachea, bronchus, lung cancers
10	Tetanus	Fires	Maternal haemorrhage	Poisonings	Diabetes mellitus	Nephritis and nephrosis	Road traffic injuries
11	Protein-energy malnutrition	Measles	Ischaemic heart disease	Maternal haemorrhage	Self-inflicted injuries	Alzheimer and other dementias	Diabetes mellitus
12	Syphilis	Leukaemia	Poisonings	Fires	Stomach cancer	Tuberculosis	Malaria
13	Drownings	Congenital anomalies	Abortion	Nephritis and nephrosis	Liver cancer	Liver cancer	Hypertensive heart disease
14	Road traffic injuries	Trypanosomiasis	Leukaemia	Drownings	Breast cancer	Oesophagus cancer	Self-inflicted injuries
15	Fires	Falls	Cerebrovascular disease	Breast cancer	Hypertensive heart disease	Cirrhosis of the liver	Stomach cancer
16	Tuberculosis	Epilepsy	Diarrhoeal diseases	War and conflict	Nephritis and nephrosis	Inflammatory heart diseases	Cirrhosis of the liver
17	Endocrine disorders	Leishmaniasis	Falls	Falls	Oesophagus cancer	Breast cancer	Nephritis and nephrosis
18	Upper respiratory infections	Violence	Meningitis	Diarrhoeal diseases	Colon and rectum cancers	Prostate cancer	Colon and rectum cancers
19	Iron deficiency anaemia	War and conflict	Nephritis and nephrosis	Liver cancer	Poisonings	Falls	Liver cancer
20	Epilepsy	Poisonings	Malaria	Trachea, bronchus, lung cancers	Mouth and oropharynx cancers	Road traffic injuries	Violence

Source: WHO (2008), Global Burden of Disease: 2004 update.



- Our outcome will be most depending on how we control our focus group.
- There is a need to understand 15-29 years old group socio demographic in ASEAN for better implementation of strategy.
- We have to minimize their exposure to non safe mobility by providing safe and affordable alternatives.

# The Road Traffic Injury Problem

- Producing safer and affordable vehicle now is the trends. ASEAN NCAP encourage and challenge manufacturer to produce safer and safer vehicle. Our projection as follows;

Year	Minimum price for 5-star car
Current	< USD 19,000
2014	< USD 13,000
2015	< USD 11,000
2016	< USD 9,000

- As a conclusion, producing safer mobility is not rhetoric. Understanding industry situation and consistently negotiate to produce the utmost result is the best way to handle NCAP program in the region.
- Definitely, producing affordable safer vehicle will be one of the road safety solution, but not the total solution.
- There is **millions on non-safe** vehicle running on ASEAN streets, its unfinished business of vehicle safety fighters.

➤ Number of registered vehicle in 2010

Country	Quantity
Indonesia	72,692,951
Vietnam	33,166,411
Thailand	28,484,829
Malaysia	20,188,565
Philippines	6,634,855
Myanmar	2,326,639
Cambodia	1,652,534
Laos	1,008,788
Singapore	945,829
Brunei	349,279
<b>TOTAL</b>	<b>167,450,680</b>

➤ ASEAN Top 3 Vehicle Production Statistics 2014

World Ranking	Country	Passenger	Commercial	Total	Percentage
9	Thailand	1,122,780	1,409,797	2,379,806	2.73%
15	Indonesia	925,111	283,100	1,208,211	1.38%
22	Malaysia	540,200	55,970	596,170	0.68%

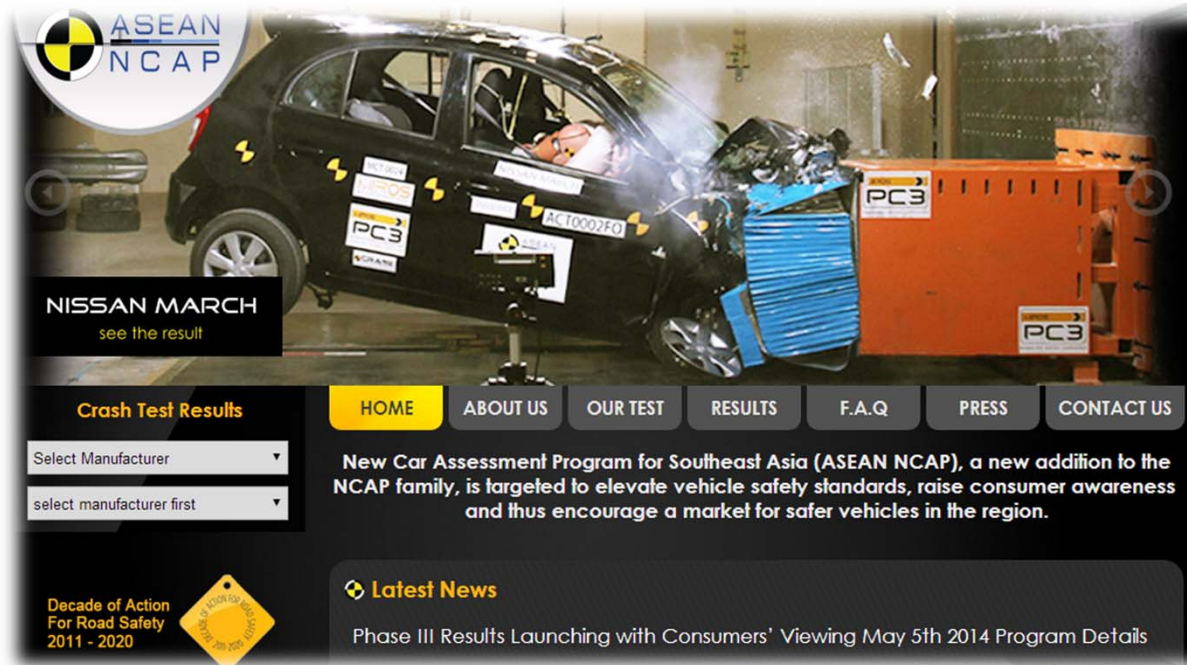
- For ASEAN NCAP to achieve its target, several strategic approaches has been addressed for an immediate execution;
  - Reliable database of road fatalities and accidents (i.e. MIROS & TARC)
  - Effective communications towards consumer and stakeholders.
    - ❖ Proposing a new setup of Communications Committee as a effective platform to disseminate information to consumer (public).
  - Encouragement of crash avoidance technology fitment especially related to motorcyclist.
    - ❖ Supporting motorcyclist PPE and active safety devices i.e. ABS for Motorcycle.
  - Promoting safer cars.
  - Removal of non safer cars from the system
    - ❖ Highlights on the used car issue and after repair crashworthy and roadworthy.
  - Improving safety beyond rating (Research Test i.e. braking and pedestrian).



Safer Cars for ASEAN Region

# Communications Main Platform

- Website – [aseancap.org](http://aseancap.org)
  - ❑ Crash test results
  - ❑ News & press release
  - ❑ Link to other media/social media



General inquiries: [aseancap@gmail.com](mailto:aseancap@gmail.com)



ASEAN  
NCAP  
www.aseancap.org

Safer Cars for ASEAN Region

# Other Communications Platforms

## ➤ Social/Electronic Media

- Facebook
- Twitter
- Flickr (photos)
- Youtube Channel
- Wikipedia

## ➤ Exhibitions

## ➤ Relationship with media and OEMs' media reps

- Press release
- Bloggers
- OEMs' ads mentioning ASEAN NCAP

## ➤ ASEAN Community

- Universities/Higher Education
- Automobile Associations



# Encouragement of Crash Avoidance Technology

- What is the most important accident to avoid is anything related to motorcycle.
- The recent technology of AEB must able to works for saving motorcyclist otherwise the effect will not be much to the region.
- Increasing awareness of motorcyclist existence should be increase by Lane watch and BSI.
- Although ASEAN NCAP highly promoted the fitment of latest crash avoidance technology in our market, the focus should be on how we can save motorcyclist.





- Simple yet effective solution would be able to reduce motorcyclist casualty.

- ASEAN NCAP focus on Top 30 of ASEAN volumes with minimum of 4-star rating.
- However, it is very dynamic and keep changing position year by year.
- To maintain the exclusivity of Top 30, ASEAN NCAP reconsidering to further looks into Top 50 for ensuring the safety quality of Top 30 cars.
- Manufacturer is encouraged to launch the new vehicle with rating.

- ASEAN NCAP also need to consider on people mover such as Van type, because it is also among top 30 vehicle i.e. Daihatsu Granmax, Suzuki Futura, Mitsubishi L300).
- A special edition of ASEAN NCAP might be introduced in special phase to cover this type of vehicle.



# Promoting Safer Cars

- ASEAN NCAP fully support the [Global NCAP Fleet Safety Guide and Safer Car Purchasing Policy 2014-2015](#).
- Although ASEAN NCAP mainly about passenger cars, there should be a synergize activity to level up motorcycle safety equipment's i.e. ABS system.
- ASEAN NCAP should play a major role in encouraging partnership with Motorcycle industry.

- During the starting of ASEAN NCAP, many have commented that “safety = expensive”, now we finally can enjoy 4-star car with affordable price.
- RM24,900 / THB 250K / IDR 92M /SGD 9800 / USD 8000 / EU 6000 / YEN 800K



# Assessed by ASEAN NCAP

Type	Phase 1	Phase 2	Phase 3	Phase 3+
<u>Pick Up</u>			Chevrolet Colorado [5,4] Isuzu DMax [4]	
<u>Sedan</u>	Ford Fiesta [5]  Honda City [5] Toyota Vios [4]  Proton Saga [3]	Nissan Almera [4]  Mazda 2 [4] Honda Civic [5,4]  Toyota Prius [5]	Proton Preve' [5]  Toyota Corolla Altis [5,4] VW Polo Sedan [4]  Chevrolet Sonic [4]	New Honda City [5,4]  Nissan Teana [5]
<u>Small Car</u>	Nissan March [4] Hyundai i10 [2] Perodua MyVi [3]	Mitsubishi Mirage [4] Suzuki Swift [4]	Peugeot 208 [4] Kia Picanto [4,0]	New Jazz [5,4] Perodua AXIA [4] New Proton [5] Tata Vista [3] New MyVi [4]
<u>MPV</u>		Toyota Avanza [4] Daihatsu Xenia [4] Perodua Alza [4]		
<u>SUV</u>		Mitsubishi Pajero Sport [4]  Subaru XV [5]	Honda CR-V [5,4]	

# Removal of non safer car in the system

- Although safety become highest priority in making cars in ASEAN, there are still a lot of non safe cars pre-ASEAN NCAP time.
- Some old cars are not fit either crashworthiness and roadworthiness, but required for survivality.
- Thus, ASEAN NCAP need to path a method to discourage the usage this non safe cars.
- However, this could only be realized with collaboration of each law makers in the country.
- Regardless of the outcome, this issue need to be highlighted.

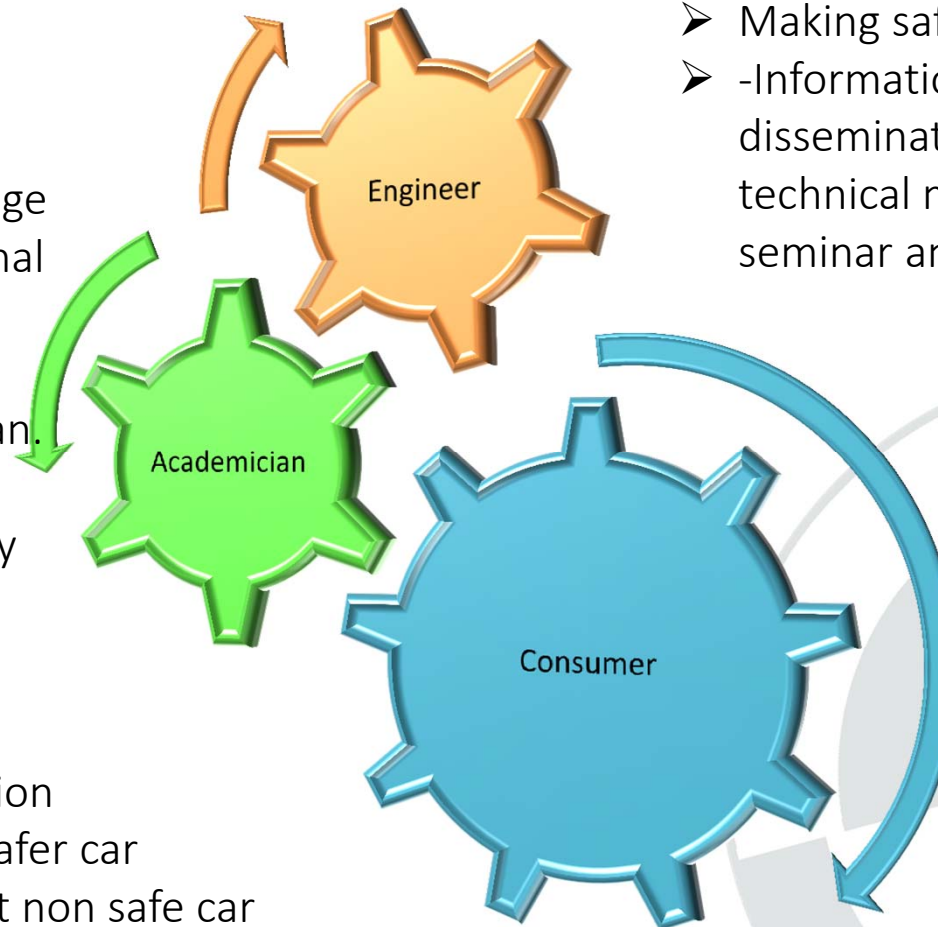
- Pick Up is the most selling vehicle in the region.
- Thus crash compatibility between Pick Up versus another vehicle need to be explored.
- ASEAN NCAP must discover the balance for future undertake.
- Further, aging vehicle crashworthiness i.e. structure will also contribute to traffic casualties.

**Pemandu Kelisa maut  
dirempuh Toyota Hilux**



# Another point of view

- Vehicle Safety Knowledge
- Submitting paper/journal in conference.
- Dedicated technical seminar for academicians.
- Promoting research related to vehicle safety



- Making safer cars
- -Information dissemination via technical meetings, seminar and forum

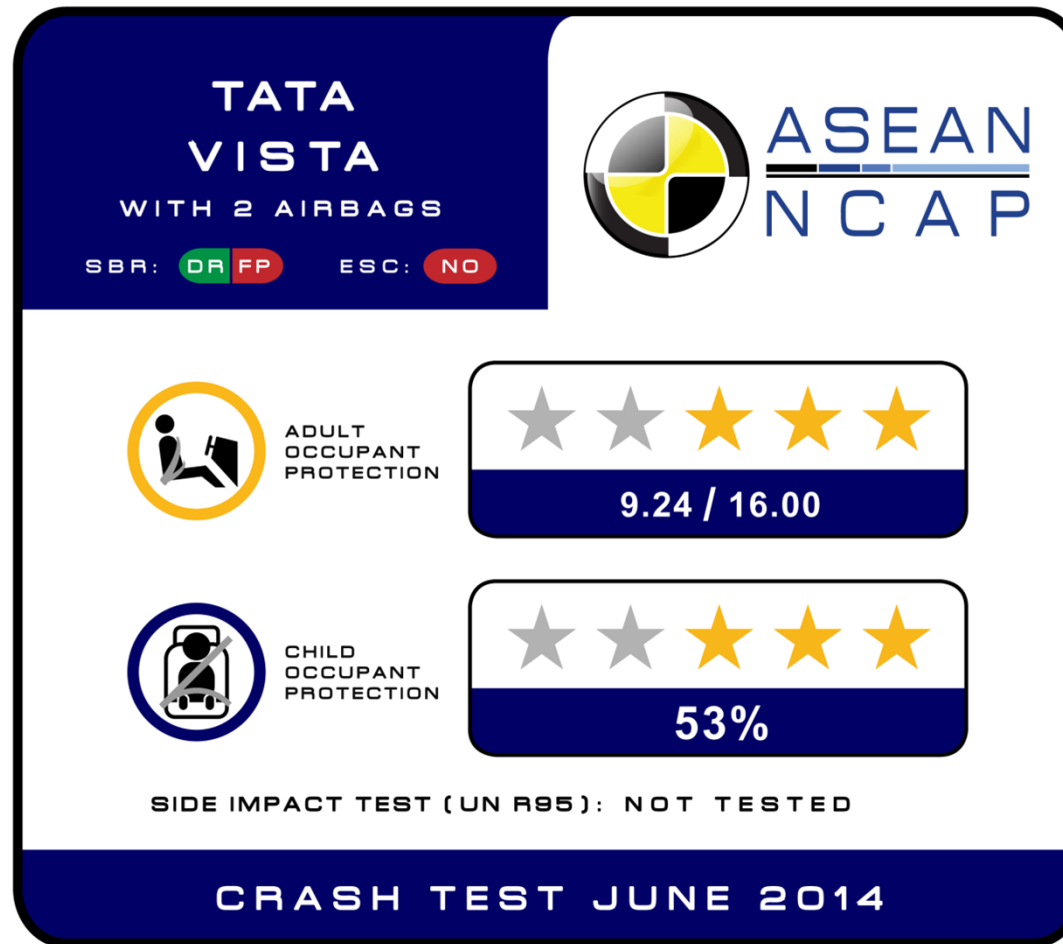
- Decision
- Buy safer car
- Reject non safe car
- Information through new media

- To stabilize the rating and maturing the development of new vehicle, ASEAN NCAP will maintained its current protocol until end of 2016 except for Side Impact R95 requirements.
- Starting 2015, Side Impact R95 is mandatory for 3-star car and above.
  - For option test with launching, R95 certificate is acceptable.
  - Other than above, test need to be conducted at ASEAN NCAP official laboratory.

- To ensure the repeatability and quality, ASEAN NCAP will introduce reassessment or audit test by end of 2014.
  - ❑ Priority to the car that has extended their ratings for example MIRAGE to ATTRAGE.
  - ❑ Deviation of safety items for example the introduction of new variant without top tether where else it was tested with it before.
- Each WGs need to proposed new rating system to Technical Committee by end of 2015.
- Technical Committee will announced new rating systems by January 2016.

- ASEAN NCAP wish to focus on developing new testing regime as below;
  - New combined rating system
  - Frontal Occupant Protection
  - Lateral Occupant Protection
  - Child Occupant Protection
  - Safety Assist Technology





- Although 5-star+ is not introduced in the rating; the new rating will separate the ordinary 5-star and higher achievers.
- Also to ensure the balance for each star ratings in terms of cost-effective factors has been taken into consideration.
  - Previously gap between 5 & 4-star is differentiate by ESC & SBR. 4-star doesn't need to have any SBR, ESC or even ABS.


- ASEAN NCAP has witnessed many miss use of dual ratings.
  - Usually display higher variant.
- This is not effective for ASEAN as a region but as an advantage to certain extend for manufacturer.
  - 4-star car might be displayed in available 0-star country.
- ASEAN NCAP take note of recent development of Euro NCAP – from single to dual star rating.
- ASEAN NCAP understands the move is to promote more safety assist technology in a mature market.
- Hence, for ASEAN NCAP foresee that single rating is more effective for the region to promote safer vehicle.

- New Rating is separated in 3 categories;
  - Adult Occupant Protection (AOP)
  - Child Occupant Protection (COP)
  - Safety Assist Technology (SAT)
- The new rating described current and future are equally important
  - AOP (50%) [ current ]
  - COP & SAT (25%+25%=50%) [future]



# Draft Combined Rating

*ASEAN NCAP: Safer cars for today and future*

2017 Rating System	AOP		COP		Safety Assist		
 www.aseancap.org	ODB	16	Dynamic Assessment Frontal	16	Effective Braking & Avoidance	7	
	Full Frontal	2	Dynamic Assessment Side	8	Seat Belt Reminders	6	
	SIDE	16	Installation of CRS	12	AEB City	1	
	Head Protection Tech.	2	Vehicle based assessment	13	Blind Spot Technology	1	
					Advance SAT	2	
Max.Score (1)	36		49		17		
Normalized score (2)	actual score / (1)		actual score / (1)		actual score / (1)		
Weighting (3)	50%		25%		25%		Overall Score
Weighted Score	(2) x (3)		(2) x (3)		(2) x (3)		Total
<b>Rating</b>	<i>minimum: normalised (2) / actual score by box for the respective star rating</i>						Min. Overall Score
5-star	80%	28.8	80%	39.20	60%	10.2	80%
4-star	70%	25.2	70%	34.30	50%	8.5	70%
3-star	50%	18.0	50%	24.50	30%	5.1	60%
2-star	30%	10.8	30%	14.70	20%	3.4	55%
1-star	20%	7.2	20%	9.80	10%	1.7	45%

# Frontal Occupant Protection

- Development of new test protocols i.e. full frontal etc.
- Minimum points for 5-star, will current 14 points good enough or too stringent.
- Overall situation will be analyzed via compatibility study, pre-NCAP vehicle crashworthiness study.
- The main debate will be portion of frontal in combined rating, thus detail study need to be done.
- Additional test protocols will be discussed together with Latin NCAP and WG. ASEAN NCAP will also referring to Euro NCAP latest plan of mobile solution to offset front impact.
- Plan to include in new test regime from 2020 onwards.

- Portion of combined ratings need to developed from real world crash.
- New NCAP side impact test will be considered together with Q1.5 & Q3 dummy.
- Development of Curtain Airbag Evaluation to replace pole test.

- Q1.5 & Q3 expected to be delivered to MIROS PC3 by End of 2015.
- Development test will be started by 2016.
- New points system will be introduced, detail discussion will be in the WG.
- Why not having our own ASEAN NCAP Child Seat. Possible solution for safer, affordable and practical CRS.

- Protocols for SBR and ESC need to be developed within 2015.
- AEB development for Motorcycle will be depending on Euro NCAP case study on PTW 2017/2018.
- WGs should prioritize on SATs that suitable to save motorcyclist in ASEAN region.
- Suitability of the system/device in the region need to be explored together with OEM.

**Thank you for your  
attention**

# Copyright Statement

This work is the intellectual property of ASEAN NCAP. Permission is granted for this material to be shared for non-commercial, educational purposes, provided that this copyright statement appears on the reproduced materials and notice is given that the copying is by permission of ASEAN NCAP. To disseminate otherwise or to republish requires written permission from ASEAN NCAP.