

WHERE ASEAN AND EAST ASIA NCAPS ARE HEADING

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ABSTRACT –

The population of ASEAN is now around 620 million that is more than EU and the number of automobiles manufactured every year in the region is approaching 5 million which is one third of Japan and Korea at the moment however rapidly increasing.

Therefore the market in ASEAN will be getting more important for automobile manufacturers around the world.

Accordingly in the near future automobile manufacturers will have to tune the safety performance of their cars to fit with NCAPs in Asia.

In the presentation it will be shown where ASEAN and EAST ASIA NCAPs are heading in the future.

1. WHAT IS ASIA

General Information of ASEAN Countries

Country	Population [millions]	Land Area [km ²]	Language	Capital
Indonesia	255	1,904,569	Indonesian	Jakarta
Philippines	103	299,404	Filipino	Manila
Vietnam	92	332,698	Vietnamese	Hanoi
Thailand	68	512,120	Thai	Bangkok
Myanmar	52	676,578	Burmese	Naypyidaw
Malaysia	31	330,803	Malay	Kuala Lumpur
Cambodia	15	181,035	Khmer	Phnom Penh
Singapore	7	720	Tamil	Singapore
Laos	6	237,955	Lao	Vientiane
Brunei	0.4	5,770	Malay	Bandar Seri Begawan

Total Population of ASEAN: 620 millions <EU: 582 millions>

China: 1,367 millions, India: 1,259 millions, USA: 319 millions (as 2016)

Japan: 377,930 km², Greece: 131,967 km²

Economical Statistics of Major ASEAN Industrial Countries

Country	GDP	GDP Per Capita	Number of Cars	Number of Cars	Number of Cars	Population [millions]
	[billions USD]	[USD]	Manufactured [millions]	Sold [millions]	Owned by one thousand population	
Indonesia	940	3,360	1.12	1.20	82	255
Thailand	391	5,740	2.46	1.26	227	69
Philippines	312	3,000	0.52	0.18	34	102
Malaysia	303	9,500	0.60	0.66	400	31
Vietnam	206	2,090	0.00	0.10	4	92

Total: Manufactured 4.5 millions (2013), China:20, Japan:9, Korea:4, India:3

Expectation 6.0 millions (2020) < Singapore: GDP per Capita 52,890 >

Share of Japanese Cars Sold in ASEAN

Country	Share %
Thailand	86
Indonesia	92
Malaysia	41
Philippines	84
Vietnam	54
ASEAN	85

Share of Japanese Cars Sold in the World

Area	Share %
US	41
China	14
West Europe	14
Japan	95
World	27

Indonesia: Leader of ASEAN & AEC

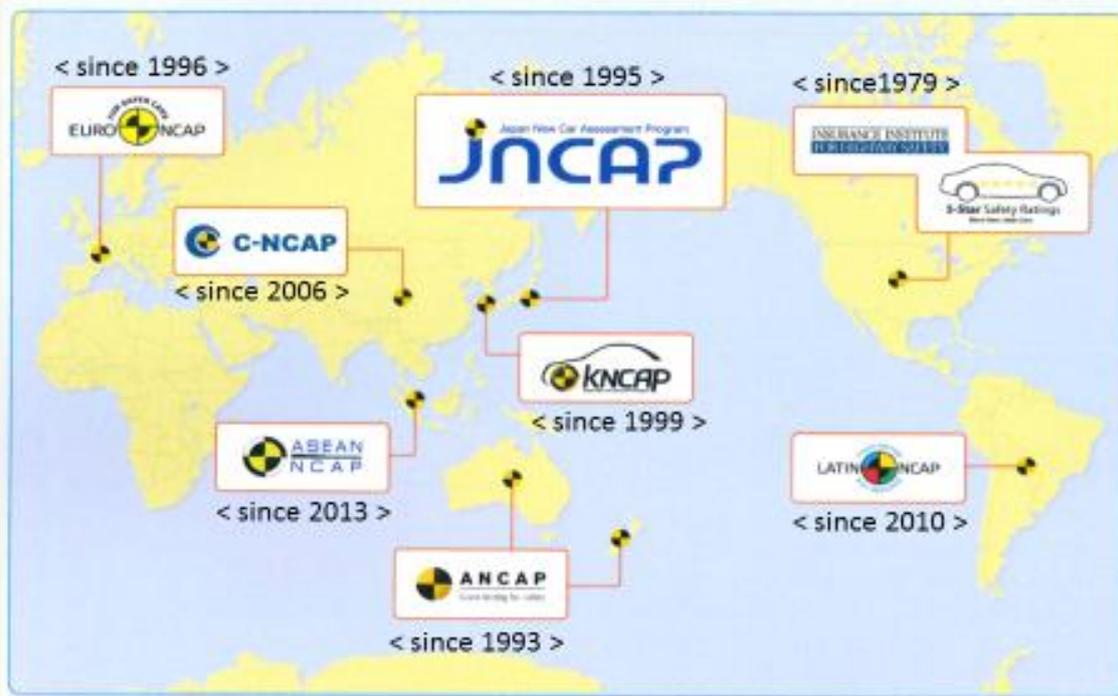
Thailand: Leader of Automobile Manufacturing

Malaysia: Leader of NCAP

ASEAN market is unique and important for Japanese automobile manufactures

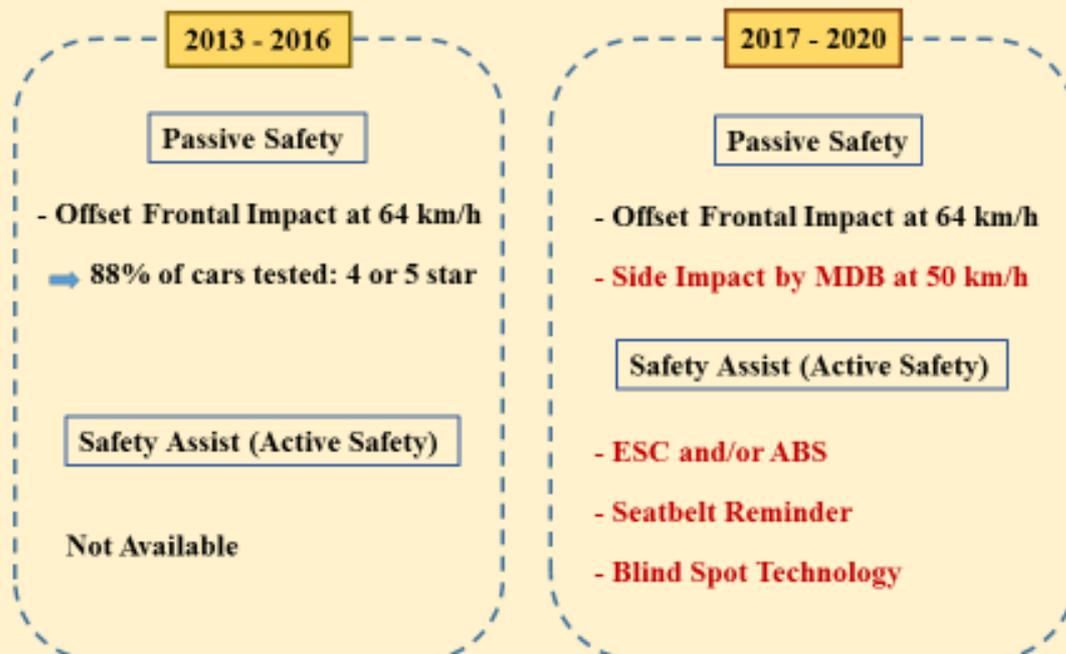
Japanese manufactures are sensitive with ASEAN NCAP

2. NCAPs around the world



Currently conducted NCAPs around the world
(8 countries and region so far)

Past & Future of ASEAN NCAP (since 2013)



Specialty of ASEAN NCAP

ASEAN 10 Countries are divided into 4 different Sector
(Different rating scheme is applied)

Sector	Country Score	Country
0	2	Brunei, Singapore
1	3	Malaysia, Thailand, Indonesia
2	2	The Philippines, Vietnam
3	1	Laos, Cambodia, Myanmar

ASEAN NCAP future direction:

No plan to expand current Passive Safety test

→ HPT Evaluation (Fitment Rating System)

Focus more on Safety Assist Technology (Active Safety) Assessment

→ ESC, ABS, SR, BST

Fitment Rating System only so far

3. JNCAP

Current Passive Safety Evaluation by JNCAP

Passenger Protection



Frontal Impact
Full
55 km/h
Hybrid III



Frontal Impact
Offset
64 km/h



Side Impact
MDB, 55km/h
Euro SID



Rear Impact
Sled Test
20 km/h

100 points

Pedestrian Protection



Head Protection
Grid System
40 km/h



Leg Protection
40 km/h

100 points

Roadmap of Active Safety Evaluation by JNCAP

Item	Point	2014	2015	2016	2017	2018	2019	2020
AEB (for Car)	32							
LDW	8							
Rear View Monitor	6							
AEB (for Pedestrian) daytime	25							
LKA/LDP	8							
Wrong Pedal Stepping	NA							
AEB (for Pedestrian) night time	55							

 Implementation

2014: Year of Active Safety Introduction

Overall Five Star Evaluation has not been employed yet but might be introduced in 2018
Because total points will reach **134** in 2018

Highlight of JNCAP 2016

Passive Safety (Full mark: 100 points)

- Thorax deformation threshold tightened
- Head & Leg Protection evaluation tightened
- **SUBARU IMPREZA obtained highest points ever**

Active Safety (Full mark: 71 points so far)

Autonomous Emergency Braking
for Pedestrian was introduced
<Full mark: 25 points>

Rating of 22 models tested

Lank 5 (20-25 points):	15 models
Lank 4 (15-20 points):	1 model
Lank 3 (10-15 points):	3 models
Lank 2 (5-10 points):	0 model
Lank 1 (0-5 points):	3 models

Highlight of JNCAP 2017 & 2018

Passive Safety

Frontal Collision

AF05 front passenger seat
Tightened Injury Criteria

Side Collision

AE-MDB will be introduced
World SID
55km/h

Active Safety

LKA/LDP (2017)

Wrong Pedal Stepping (2018)

Autonomous Emergency Braking
for Pedestrian **at night time** will be
introduced (2018)

<Full mark: **55** points>



Full Mark of Active Safety will be
134 points

Automatic Collision Notification (AACN)

Installation of AACN system will be an evaluation item of JNCAP from 2018

Policy Change of JNCAP

Before Active Safety

- Existing Safety Performance was tested and rated
- Car to be tested was chosen from largest selling in the market

After Active Safety

- Not common but important safety equipment is chosen and how to test is decided
- Announce what JNCAP is going to introduce and encourage manufacturers to install

New Overall Evaluation after 2018

Step 1

New Overall Evaluation for
Passive and Active individually
(from 2018)

Step 2

Passive & Active Combined
Overall Evaluation
(from 2020)



Which is important?

Passive Safety is going to be less important in comparison with Active Safety?

4. CONCLUSIONS

Conclusions

- ASEAN NCAP contributes the cars manufactured in the region to be safer significantly.
- However evaluation items and methods are limited so far but will catch up rapidly.

- JNCAP is piling up points for Active Safety Assessment as testing item is increasing.
- Active Safety Technology will contribute to reduce accident incidence
- Passive Safety Assessment will be less important in comparison with Active Safety
- This affects overall evaluation from 2020, that is, need to give more point to active safety assessment than passive safety